PATENT ABSTRACTS OF JAPAN

(11)Publication number : 07-058866

(43)Date of publication of application : 03.03.1995

(51)Int.Cl. H04M 11/00
G03G 21/00
H04N 1/00

(21)Application number : 05-199844

(22)Date of filing : 12.08.1993

(71)Applicant : RICOH CO LTD

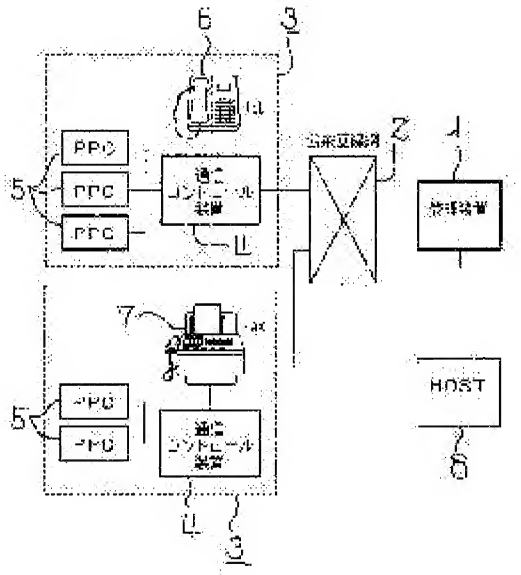
(72)Inventor : OGURA MASAAKI

(54) REMOTE CONTROLLER

(57)Abstract:

PURPOSE: To operate more efficiently the system and to enhance the secrecy by providing a password to a communications system and comparing the password in data with a password stored in management equipment.

CONSTITUTION: A specific data storage means in a communication controller 4 stores specific data sent periodically from a copying machine 5. Furthermore, the storage means provided in a management device 1 stores initial setting data sent from the controller 4. At the time of the receipt of the initial setting data, an initial setting data validity discrimination means in the management device stores a password (ID) in the initial setting data when the initial setting end means is not set and the initial setting data validity discrimination means compares the password with a password stored in the management device 1 when the means is and the initial setting data are validated only when they are coincident. Thus, the system is operated efficiently and the secrecy is much improved.



* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

CLAIMS

[Claim(s)]
[Claim 1]A telephone line, an image processing device with a TV phone which transmits and receives a taken image between communications partners via a modem which are provided with the following and characterized by transmitting a taken image processed by this taken image processing means to the other party.
The normal mode which transmits a taken image transmitted to the other party as it is.
A mode switching means which changes image-processing mode which processes a taken image and transmits.
A mode discrimination means which distinguishes the mode changed by this mode switching means.
A portrait image specifying means which pinpoints an image range corresponding to a person out of a taken image transmitted to the other party when it is distinguished that this mode discrimination means changes to image-processing mode, A taken image processing means which processes at least some taken images transmitted to the other party based on an image range pinpointed by said portrait image specifying means when changing to said image-processing mode.

[Claim 2]An image processing device with a TV phone given in a claim (1), wherein said taken image processing means processes a taken image by piling up a fixed image pattern beforehand decided to be the background parts except an image range pinpointed by said portrait image specifying means among taken images.
[Claim 3]An image processing device with a TV phone given in a claim (1), wherein said portrait image specifying means pinpoints an image range corresponding to a person based on a heat ray distribution state which has a heat sensor which detects a distribution state of a heat ray, and was detected by this heat sensor.

[Claim 4]An image processing device with a TV phone given in a claim (3) with which said portrait image specifying means distinguishes the strength based on a heat ray distribution state detected by a heat sensor, and a heat ray is characterized by specifying a strong face part as a portrait image.
[Claim 5]An image processing device with a TV phone given in a claim (1), wherein said taken image processing means processes a taken image by piling up a fixed image pattern beforehand decided to be the image range pinpointed by said portrait image specifying means among taken images.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Industrial Application]This invention relates to the remote control which connects an image forming device and controlling devices, such as a copying machine, via a communication line.
[0002]
[Description of the Prior Art]Conventionally, the system which enabled the controlling device installed in the on-line service etc. and connection of image forming devices, such as a copying machine, is developed using the public line. In this case, by managing intensively two or more copying machines currently installed in the remote place with the host machine installed in one place of a center, it uses for the total of the operating condition of each copying machine, or uses for the maintenance of a copying machine, etc. As concrete contents of this maintenance, the automatic call origination to the controlling device by the self-test of a copying machine and accessing a copying machine from the controlling device side, and adjusting each part are performed. It also became possible by having developed such a system to read conventionally the counter value (generally number of copied sheets) for billing of the maintenance contract of the copying machine which was being checked by the visit of a service engineer, or the customer's telephone by remote control.
[0003]The example of remote control is given to below. There are some which are indicated by JP,1-103950,U and JP,1-100561,U as "a copying machine in which telephone remote automatic meter reading is possible", and are indicated by JP,1-100562,U as "a network control unit for number-of-copied-sheets automatic meter readings." Each of these makes possible remote automatic meter reading by a telephone by being related with telephone remote control systems and communicating the present value of the number of copied sheets of a copying machine with a partner's main computer using a telephone network.
[0004]There are some which are indicated by JP,2-257155,A and JP,2-259666,A as "an

information collection system of an image forming device." Each of these is related with the system for collecting the error information of an electronic copying machine, etc., the former transmits various information on a copying machine, and receives and memorizes this, and the latter transmits various information on a copying machine periodically. In what is indicated by JP,3-196053,A as an "image forming device." It is related with an external centralized control device etc. and the image forming device constituted so that connection was possible via a communication line, and a remote control signal is received via a communication line in this case, and it is made to perform processing corresponding to this.

[0005]

[Problem(s) to be Solved by the Invention]As mentioned above, development of the system about various remote control is made, but. For example, when the copying machine and the controlling device are tied via the communication line and the copying machine is turned off, the data by the side of a copying machine cannot be read from a controlling device, but the timing whose read-out becomes possible by this will be restricted. That is, even if it tries to read data in the night etc. which communication cost is small and have little traffic and when a connection rate is high, the copying machine is turned off in many cases and read-out of data can be performed.

[0006]

[Means for Solving the Problem]In a remote control provided with an interface device connected to image forming devices, such as a copying machine, via a communication line, and a controlling device connected to this interface device via a public line in the invention according to claim 1, A specific data memory measure which memorizes specific data periodically transmitted from said image forming device is established in said interface device, A data storage means for initial setting which memorizes data for initial setting currently sent from said interface device, When initial setting receives an initial-setting completion means which shows ******** for the first time, and said data for initial setting, When a password in said data for initial setting is memorized when said initial-setting completion means is not set up, and said initial-setting completion means is set up, a password in said data for initial setting is compared with a password memorized by said controlling device. Only when agreeing, a data effective discriminating means for initial setting which validates said data for initial setting was established in said controlling device.

[0007]In the invention according to claim 2, a password comparing means which is not concerned with transmission and reception but compares a password was established in a controlling device in the invention according to claim 1.

[0008]In the invention according to claim 3, a password change means by which a password memorized by controlling device could be changed after cutting of a power supply of both an inside and the exterior of the controlling device was formed in the invention according to claim

1.

[0009]In the invention according to claim 4, the 2nd password change means that makes change of a password memorized by controlling device change using the 2nd password was formed in the invention according to claim 3.

[0010]

[Function]In the invention according to claim 1, the password can do setting out individually as an internal parameter of data, and, moreover, it becomes possible by giving a password to a communication body system to improve confidentiality.

[0011]In the invention according to claim 2, it becomes possible by comparing a password to improve confidentiality much more.

[0012]In the invention of claim 3 and four statements, a password is on communication, and since it cannot enter from other systems and cannot change easily, it becomes possible to improve confidentiality further much more.

[0013]

[Example]One example of this invention is described based on a drawing. First, the composition of the image forming device managerial system as a remote control is described based on drawing 1. The controlling device 1 is installed in the service base, and this controlling device 1 is connected to the communication controlling device 4 as an interface device in the user area 3 via the public network 2 (it is hereafter called a public line). The copying machine (PPC) 5 as an image forming device, the telephone (TEL) 6 as external communication apparatus, and the facsimile (FAX) 7 are connected to this communication controlling device 4. The controlling device 1 is connected with the host machine 8 which performs generalization management.

[0014]In this case, although two or more copying machines 5 are connectable, the case where it is the singular number may be sufficient, all of these models do not need to be of the same type, and a different model may also be available for them, and they may connect apparatus other than a copying machine to the communication controlling device 4. Here, it carries out [that a maximum of five copying machines 5 are connectable with the one communication controlling device 4, and], and multidrop connection of the communication controlling device 4 and two or more copying machines 5 is carried out by RS-485 standard. And communications control between such a communication controlling device 4 and each copying machine 5 is performed according to a basic mode data transmission control procedure. That is, communication with the arbitrary copying machines 5 is possible by establishing a data link with the polling selecting mode of the centralized control which made the communication controlling device 4 the control station. Each copying machine 5 can set up a peculiar value now with the address setting switch 29 (refer to drawing 4), and the polling address of each copying machine 5 and a selecting address are determined by this.

[0015]Next, the detailed composition of each part of the image forming device managerial system mentioned above is explained based on drawing 2 - drawing 9. First, drawing 2 shows the internal configuration of the communication controlling device 4. The switching part 10 which CPU9 is installed in that center section in this communication controlling device 4, and performs the change to the public line 2 or TEL6, and FAX7 to this CPU9, The modem 11, the communication interface 12 using the transceiver for RS-485 connected to the copying machine 5, RAM13 and ROM14 that were connected to the battery (BATT) 13a, the clock 15, and self-call origination permission SW16 are connected. Thereby, the signal from the public line 2 is first inputted into the switching part 10. And if the communication from the public line 2 side is the thing addressed to the telephone 6 (or facsimile 7) connected to the communication controlling device 4, the public line 2 side will be connected to the telephone 6 (or facsimile 7), and if it is communication from the controlling device 1, the public line 2 side will be connected to the modem 11. The communication interface 12 can perform communication by the side of the copying machine 5. These control and processings are performed focusing on CPU9 according to the control program in ROM14. The intermediate result of processing, etc. are stored in RAM13, and also it is used in order to store the communication text temporarily. Various parameters required for operation of the communication controlling device 4 are also written in the RAM13 from the controlling device 1 side. Usually, although the communication controlling device 4 performs continuous energization for 24 hours and changes it into the state in which the controlling device 1 and communication are always possible, it is backing up with the battery 13a so that the contents and the communication text of these parameters may not be lost in unexpected power off etc.

[0016]Drawing 3 shows the internal configuration of the controlling device 1. The external storages 18, such as a magnetic disk for the host computer 17 which performs various processing being arranged in a center section, and storing management data etc. in this host computer 17, The display 19 for a display, the key boat 20 which is control means, the printer 21, the modem 22 for connecting with the public line 2, and LAN23 that were connected to the host machine 8 are connected. The host machine 8 is a computer which manages two or more controlling devices 1 synthetically.

Various routine works are also performed in addition to the data of this system.

[0017]Drawing 4 shows the composition of the control section 24 of the copying machine 5. Control of this copier body is performed based on the control program and data which are memorized by ROM26 focusing on CPU25, and RAM27 is used in order to store the intermediate result of processing, etc. Various equipment which is described below is connected to CPU25. The communication interface unit 28 is a portion which performs communication with the communication controlling device 4.

An address peculiar to a copying machine can set up now in the range of ** - ** with the address setting switch 29.
The communication permission switch 30 sets up permission/prohibition of communication with the communication controlling device 4. The final controlling element 31 consists of keyboards etc., and can carry out alter operation from the outside. The optical system control unit 32 performs drive controlling of an exposure lamp. The high-voltage-power-supply unit 33 supplies electric power to an electrifying charger, a separation charger, a transfer charger, a front [transfer] charger (PTC), and developing bias. The motor control unit 34 controls main motor capacity. The heater control unit 35 performs drive controlling of a fixing heater. The sensor sensitivity control unit 36 is used in order to change the light-receiving gain of P sensor, the light emission voltage of P sensor LED, the light-receiving gain of an ADS sensor, the light-receiving gain of the amount sensor of lamp lights, etc. A/D converter 37 is used in order to input ramp voltage, P sensor light emission voltage, P sensor light-receiving voltage, a potential sensor output, an ADS sensor output, the amount sensor output of lamp lights, a drum current sensor output, and fixing thermistor voltage. The composition from drawing 1 explained above to drawing 4 is just going to be related to the composition of the principal part of this example mentioned later dramatically.
[0018]Although drawing 5 - drawing 9 show the mechanical composition of the exposure optical system of the copying machine 5, a developing section, a feeding part, and a final controlling element, explanation here is a place which is not so directly [the composition of the principal part of this example mentioned later] related below. First, drawing 5 shows the composition of the exposure optical system of the copying machine 5. ADF(automatic draft feeder) 39 is laid on the field of the contact glass 38. The 1st scanner 42 constituted from the exposure light 40 and the 1st mirror 41 by the lower part of the contact glass 38, The 2nd scanner 45 that comprises the 2nd mirror 43 and the 3rd mirror 44, the lens 46, the 3rd scanner 49 that comprises the 4th mirror 47 and the 5th mirror 48, and the 6th mirror 50 are arranged. The light from this 6th mirror 50 is led to the photo conductor drum 51 of a developing section.
[0019]Drawing 6 shows the composition of the developing section of the copying machine 5. The light from said 6th mirror 50 is drawn on the field of the photo conductor drum 51. Around this photo conductor drum 51, the eraser 52 and the potential sensor 53, The development unit 54, the toner cartridge 55, PTC56 and PTL57, the resist roller 58 of a couple, the transfer charger 59, the separation charger 60, the separating claw 61, the cleaning unit 62, and the electrifying charger 63 are formed. In the cleaning unit 62, the P sensor 64, the cleaning blade 65, the cleaning brush 66, and the quenching lamp 67 are arranged.
[0020]Drawing 7 shows the composition of the feeding part of the copying machine 5. Inside the case, it becomes the 1st - the 4th feed unit 68-71 and the 1st - the 4th tray 72-75 with a

pair, respectively, and is arranged. The right longitudinal transportation part 76 is allocated in the 1st and 2 feed unit 68 and 69 side, and the left-vertical transportation part 77 is allocated in the 3rd and 4 feed unit 70 and 71 side. The level transportation part 78 is allocated in the upper part so that the right longitudinal transportation part 76 and the left-vertical transportation part 77 may join. The double-sided feed unit 79a and the double-sided tray 79b are allocated by the position connected with the level transportation part 78. The manual bypass table 80 is attached to the case outer side side, and this table is connected with the manual paper feed unit 81. The transportation belt 82 is allocated by the position close to the resist roller 58 and the photo conductor drum 51.

[0021]Drawing 8 and drawing 9 show the composition of the final controlling element 31 (refer to drawing 4) of the copying machine 5. A of drawing 8 - the sign of WA show the composition of the panel part 83 showing various keys and a display, and drawing 9 shows these A - the name 84 and its ******** 85 to WA. The guidance display part 86 for telling operation and warning is formed in the center upper part of the panel part 83. Having provided the remote report display of the remote report key of RO and WA has the feature especially here. The remote report key of RO is for a user to report at the time of a service request.

It is for carrying out the lighted indication of the remote report display of WA remote being under report.

In this example, although the remote report key of the sake only for remoteness was provided, it may be made to realize a remote control function with a depression order, depression time, depression combination, etc. using other keys, without providing such a key.

[0022]Here, operation of the copying machine 5 shown in drawing 5 - drawing 7 is explained. The photo conductor drum 51 is supported by the drum shaft (it does not ****) pivotable, and rotates counterclockwise by a copy statement etc. The manuscript 87 to which paper was fed by ADF39 on the contact glass 38 is scanned and exposed with the 1st scanner 42. The catoptric light image from the contact glass 38 passes through from the 1st mirror 41 to the 6th mirror 50 one by one, and image formation is carried out on the field of the photo conductor drum 51. The photo conductor drum 51 is charged by the electrifying charger 63, and forms a latent image on the drum surface by a catoptric light image. This latent image is developed as a toner image with the development unit 54. In the case of development, a deep or light picture can be acquired with bias voltage. The transfer paper 88 stocked in another side in the 1st - the 4th tray 72-75, and the double-sided tray 79b, Paper is fed to predetermined timing with each feed units 68-71, and 79a, and it is sent to the resist roller 58 through each transportation parts 76-78, and is sent to the photo conductor drum 51 with a toner image. And a toner image is transferred by the transfer paper 88 with the transfer charger 59. By lowering the potential of the transfer paper 88 with the separation charger 60, the adhesion power between the photo conductor drum 51 and the transfer paper 88 can be reduced. Then, the separated transfer

paper 88 is sent to a fixing unit (not shown) with the transportation belt 89, and it is fixed to it by this, and it is discharged outside the plane.After transfer, since the toner image which was not able to be transferred has adhered to the surface of the photo conductor drum 51, the drum surface is cleaned in the cleaning unit 62, and uneven surface potential is fixed with the quenching lamp 67.

[0023]Next, the composition of the principal part of this example is explained. The communication controlling device 4 connected with the copying machine 5 (the telephone 6 and the facsimile 7 are also included in addition to this) via the communication line as shown in the block diagram of drawing 1 - drawing 3, In the image forming device managerial system provided with the controlling device 1 connected via this communication controlling device 4 and public line 2, The data storage means for initial setting which memorizes the data for initial setting which establishes the specific data memory measure which memorizes the specific data periodically transmitted from the copying machine 5 in the communication controlling device 4, and has been sent from this communication controlling device 4, When initial setting receives the initial-setting completion means which shows ******** for the first time, and said data for initial setting, When the password in said data for initial setting is memorized when said initial-setting completion means is not set up, and said initial-setting completion means is set up, the password in said data for initial setting is compared with the password memorized by the controlling device 1. Only when agreeing, the data effective discriminating means for initial setting which validates said data for initial setting was established in the controlling device 1 (it corresponds to the invention according to claim 1). There is the feature also in having formed various means which are described below in this invention.

[0024]The password comparing means which is not concerned with transmission and reception but compares a password was established in the controlling device 1 and the communication controlling device 4 (it corresponds to the invention according to claim 2). A password change means by which the password memorized by the controlling device 1 could be changed after cutting of the power supply of both the inside and the exterior of the controlling device 1 was formed (it corresponds to the invention according to claim 3). In this case, it may be made to form the 2nd password change means that makes change of the password memorized by the controlling device 1 change using the 2nd password (it corresponds to the invention according to claim 4).

[0025]Hereafter, concrete explanation of said various means (a specific data memory measure, the data storage means for initial setting, an initial-setting completion means, the data effective discriminating means for initial setting, a password comparing means, a password change means, 2nd password change means) concerning this invention is given one by one.

[0026]First, the outline of the disposal method of remote report operation of the copying

machine 5 concerning this invention is explained. Generally, in order to perform the maintenance contract and maintenance of the copying machine 5, counter values, such as a total number of copied sheets, are used. As a method of performing maintenance using such a counter value, By using this image forming device managerial system, the counter value of the total number of copied sheets is periodically transmitted to the communication controlling device 4 from the copying machine 5, Even when the power supply of the copying machine 5 is severed and the copying machine 5 is communication disabling, it enables the controlling device 1 side to get to know the counted value. That is, there is the method of pushing remote report key (**) of the copying machine 5, and transmitting the data of a remote report to the communication controlling device 4 from the copying machine 5 as the 1st method, and carrying out call origination from the communication controlling device 4 to the telephone number of the controlling device 1, and transmitting the data of the remote report further.
[0027]There is a method of the communication controlling device 4 reading the information inside the copying machine 5, and suspending data for the communication controlling device 4 inside as the 2nd method. In this case, when it reaches at the total counter value gathering time in the parameter set in that device 4 on the basis of the clock in the communication controlling device 4, total number-of-copied-sheets information is required one by one every day from all the copying machines 5 connected to that device 4. The new total number-of-copied-sheets information on the copying machine 5 with a response updates the value read on the previous day including the date time which acquired the total number of copied sheets, and memorizes it in the communication controlling device 4. When the power supply of the copying machine 5 of which total number-of-copied-sheets information was required is severed, when it is communication disabling, response reception of the data from the copying machine 5 is carried out to deferment, and it processes to the following copying machine 5. And when the demand to all the copying machines 5 is performed, it requires only of the non-receipt copying machine 5 again. Total counter value gathering time is set as the night considered that the power supply of the copying machine 5 is severed by usual, The power supply of the copying machine 5 is switched on with the passage of time, and while the copying machine 5 is performing idling immediately after powering on, and adjustment of each part, communication of such data is made to be performed.
[0028]The 3rd methods include the method of transmitting and receiving data between the communication controlling device 4 and controlling device 1 using the information on the total number of copied sheets memorized and suspended in the communication controlling device 4. That is, when it reaches at the automatic calling date of the method of reading by access from the controlling device 1 periodically on a monthly bundle day etc., and the total counter value set up in the communication controlling device 4, there are two kinds of methods with the method which the communication controlling device 4 transmits to the controlling device 1

automatically. Such a method is set up by total counter value automatic call origination permission SW16 (refer to drawing 2) provided in the communication controlling device 4. In this case, when total counter value automatic call origination permission SW16 is ON, If the time shown with the parameter set in the communication controlling device 4 is reached, call origination will be carried out to the information destination telephone number shown with the parameter set in the communication controlling device 4, and the counter value of a total number of copied sheets will be transmitted to the controlling device 1. When total counter value automatic call origination permission SW16 is OFF, automatic call origination will not be carried out, but it will wait for access from the controlling device 1. Although the data which communicates periodically was made into the counter value of a total number of copied sheets in such an example, it may be made data other than this, or may be made to communicate by adding another data. When keeping the communication controlling device 4 from advancing the data request to an unconnected copying machine by this system, it is also possible to attain shortening of access time.

[0029]Next, the example of the disposal method (the 1st - the 3rd method) of the remote report operation mentioned above is explained based on drawing 10 - drawing 13. First, the function of a remote report is explained based on drawing 10. Drawing 10 (a) shows the example of the remote report by remote report key (**). A push on remote report key (**) on the copying machine 5 will transmit the data of a remote report to the communication controlling device 4. Call origination is carried out to the telephone number of the controlling device 1 beforehand set up by this reception in the communication controlling device 4 via the public line 2 from the controlling device 1, and a remote information message is transmitted. At this time, the data transmitted to the controlling device 1 transmits only the data of a kind in which the communication controlling device 4 is beforehand set up out of two or more models of data received from the copying machine 5 to the controlling device 1. And if the communication controlling device 4 finishes transmitting predetermined data to the controlling device 1, the communication controlling device 4 will transmit the report result report showing the result of communication between the communication controlling device 4 and the controlling device 1 to the copying machine 5 which is a transmitting agency. Thereby, the copying machine 5 of a transmitting agency can know whether communication was completed in the normal state, or communication was not completed by a certain abnormalities.

[0030]Drawing 10 (b) shows the example of the remote report depended unusually [a self-test]. Usually, the case where the copying machine 5 is equipped with the self-checking function, and the abnormalities of fixing temperature are detected, When the copying machines 5 when adjustment by the electronic volume of each adjustment part is impossible change into a dangerous condition or the state which cannot be used, what a user and a serviceman are told about in an error or a form like a serviceman call is performed. The data of a remote report

according unusually [a self-test] to the communication controlling device 4 from the copying machine 5 also to the case where abnormalities are detected by the self-checking function of such a copying machine 5 is transmitted. Like the case where remote report key (**) is pushed, the communication controlling device 4 which received the remote information message transmits a remote information message to the controlling device 1, and transmits a report result report to the copying machine 5 of transmitting-to time of the end of communication origin.

[0031]Drawing 10 (c) shows the example of the remote report by advance report. Although it has not resulted in the abnormal condition with a self-excited vibration function, when the copying machine 5 judges that it is more desirable to perform maintenance when very close to an abnormal condition, the remote information message of pre caution is transmitted to the communication controlling device 4 as a warning. In the remote report depended unusually [self diagnosis], the copying machine 5 is in the state [that it cannot be used] inevitably, but in the remote report by pre caution, the copying machine 5 considers it as as [usable state], and copying operation will be performed, if a manuscript is set and the ** start key is pressed, even if it is under communication. At this time, by that copy processing, when the load of a controller is heavy, or when there is a possibility that the contents included in send data may be changed by copying operation, and it may become impossible to take consistency, communication may be interrupted. Since the remote information message of such pre caution has low urgency, the communication controlling device 4 which received this does not immediately transmit to the controlling device 1, It transmits to the convenient time for communications, such as a time zone when the use frequency of the telephone 6 and the facsimile 7 which are connected to the communication controlling device 4 is small, and a time zone with little traffic volume of the public line 2. Setting out of such time can be set up from the controlling device 1 to the communication controlling device 4. Unlike the case of other remote reports, the remote report of pre caution transmits a report result report to the copying machine 5.

[0032]Based on drawing 11, the case where it accesses from the controlling device 1 to the copying machine 5 is explained. It divides roughly into purpose-oriented and there are three kinds of these accessing methods, a Read demand, a Write demand, and an Execute demand. Drawing 11 (a) shows Read processing and says the thing of the processing which reads the output value of the logging data in the copying machine 5, various preset values, and a various sensor, etc. Drawing 11 (b) shows Write processing and says the thing of the processing which sends data and rewrites various preset values etc. from the controlling device 1. Drawing 11 (c) shows Execute processing and says the thing of processing to which test operation etc. are made to perform to the copying machine 5. Calling to the communication controlling device 4 to which the copying machine 5 which makes it the purpose from the controlling device 1 in

any case is connected, the communication controlling device 4 receives those requested data. The communication controlling device 4 which received requested data transmits requested data to the target copying machine 5. And this is received, and the copying machine 5 transmits the response to the demand to the communication controlling device 4, after processing a request content. The communication controlling device 4 transmits this to the controlling device 1, and, thereby, ends one batch.

[0033]Based on drawing 12, the case where it accesses from the controlling device 1 to the communication controlling device 4 is explained. It divides roughly into purpose-oriented and there are three kinds of these accessing methods, a Read demand, a Write demand, and an Execute demand. The processing which drawing 12 (a) shows Read processing and reads setting parameters and the status in the communication controlling device 4, When the communication controlling device 4 reads the information on copying machine 5 inside and is beforehand memorized in the communication controlling device 4, the thing of processing which reads this is said. Drawing 12 (b) shows Write processing and says the thing of processing which sends data and sets the parameter of the communication controlling device 4 from the controlling device 1. the processing which drawing 12 (c) shows Execute processing and to which test operation, such as a function check, is made to carry out to the communication controlling device 4 -- things are said.

[0034]Based on drawing 13, the case where it accesses from the communication controlling device 4 to the copying machine 5 is explained, without using the controlling device 1. This drawing 13 shows the case of Read processing, and this access, The communication controlling device 4 reads the information on copying machine 5 inside, data is suspended for communication controlling device 4 inside, and the thing of the read-out processing for making possible read-out from the controlling device 1 after that if needed is said.

[0035]Next, the composition of the data parameters and the data format which are used when performing access processing of remote report operation is explained based on drawing 14 - drawing 18. First, drawing 14 shows the list of the various parameters memorized in the communication controlling device 4. Every copying machine 5 of address ** - **, the machine type number 90 and the serial number 91 of the copying machine 5 are registered, this is added at the time of the report from the copying machine 5, and it uses in order to transmit to the controlling device 1 or to determine the address of the copying machine 5 which should be chosen at the time of access from the controlling device 1. The function of the checksum 92 is added, and this can be detected, when parameter value writes by malfunction of the communication controlling device 4, or the error on communication [exhausting] of the battery for backup, and it replaces or it is lost. The kinds (the number of times of a jam occurrence, a number of copied sheets, etc.) 96 of data transmitted to the 93 redialing frequency information destination telephone number 94, the redial interval time 95, and the controlling device 1 for

every reason for a remote report are set up. Although these parameters are written in through the public line 2 from the controlling device 1 side, direct continuation of the portable instrument for parameter setting may be carried out to the communication controlling device 4, and it may be written in, or they may be made the composition which established and sets up a control means on the communication controlling device 4.

[0036]In this case, since setting out of a parameter is important, it is improving confidentiality by adding ID (password) to commo data. This ID is not decided peculiar to each communication controlling device 4, but when specifying the 1st parameter, it decides, and after it, change in communication etc. cannot be performed but becomes possible by initializing the communication controlling device 4 manually. ID is prevented from entering from data mistaken whenever it communicates, in order to check, and a different system. If the number of predetermined times receives different ID, this error will be memorized inside, and he carries out an automatic announcement to the controlling device 1, and is trying to tell a system administrator. such -- whenever it carries out ID communication, it checked and the hacker etc. are prevented. Although it is preventing from changing ID by communication, it may enable it to change the contents in an example here using the password for the 2nd change.

[0037]Drawing 15 shows the example of composition of a format of the commo data at the time of a remote report. Drawing 15 (a) shows the data format sent to the communication controlling device 4 from the copying machine 5. The top field is the report reason code 97, and is classifying the remote report by remote report key (**), the remote report depended unusually [a self-test], and the remote report of pre caution. In the copying machine state 98, information, including the situation of consumable goods, such as a toner, oil, and a copy paper, the output value of a various sensor, the preset value of various adjustment parts, the connected state of a unit, etc., is included. Drawing 15 (b) shows the example of composition of the data format sent to the controlling device 1 from the communication controlling device 4. Since the copying machine 5 used as an information source of release is specified as a head in addition to the data from the copying machine 5, the field of the machine type number 90 and the serial number 91 is added. The generation times 99 when the notice factor occurred are formed in the rear by the clock in the communication controlling device 4. Although the kind of data transmitted to the controlling device 1 with the parameter currently installed in the communication controlling device 4 changes, a data area, It is an example when the parameter is set in the communication controlling device 4 so that only the number of times 100 of a self-test abnormal occurrence and the copying machine state 98 may be transmitted to the controlling device 1 here. Drawing 15 (c) shows the example of composition of the data format sent to the copying machine 5 from the communication controlling device 4. When the report to the controlling device 1 from the communication controlling device 4 is completed, the contents of the report result transmitted to the copying machine 5 are shown, and it consists of the

report result report code 101 and the contents 102 of a report result report.

[0038]Drawing 16 shows the example of composition of the data format at the time of access to the copying machine 5 from the controlling device 1. Drawing 16 (a) is a data format at the time of Read processing. The Read request code 103 showing Read processing and the item code 104 which performs Read are transmitted to the communication controlling device 4 following target machine type number 90 and serial number 91 of the copying machine 5 from the controlling device 1. The transmission to the copying machine 5 from the communication controlling device 4 is transmitted where the field of the machine type number 90 and the serial number 91 is removed. The copying machine 5 which received this data transmits the demanded read-out data 105 to the communication controlling device 4 with the Read answering cord 106. And in the communication controlling device 4, the machine type number 90 and the serial number 91 are added again, and data is transmitted to the controlling device 1. Drawing 16 (b) shows the example of composition of the data format at the time of Write processing. In communication [it faces to the copying machine 5 via the communication controlling device 4 from the controlling device 1] of a between, the write data 107 for writing in is added and it is sent with the write request code 108. In communication [it faces to the controlling device 1 from the copying machine 5] of a between, the write data 109 actually written in the copying machine 5 is sent with the write answering cord 110. In the usual case, the write data 107 which the copying machine 5 received, and the write data 109 which the copying machine 5 transmits are in agreement, but since it rounds off to a boundary value and data is written in when the received data has separated from the useful range, in such a case, it is not in agreement. Drawing 16 (c) shows the example of composition of the data format at the time of Execute processing. In the communication which faces to the copying machine 5 from the controlling device 1, when an object of operation is not made only in item code 104, the activity supplementary code 111 for supplementing with activity is added, and it is sent with the Execute request code 112. And the copying machine 5 which performed demanded operation transmits the operation result information code 113 to the controlling device 1 side with the Execute answering cord 114.

[0039]Drawing 17 shows the example of composition of the data format at the time of access to the communication controlling device 4 from the controlling device 1. Although drawing 17 (a) is the almost same data format as the time of access to the copying machine 5 of drawing 16 which showed Read processing, Write processing of drawing 17 (b), and Execute processing of drawing 17 (c), and was mentioned above in any case, Here, instead of the machine type number 90 and the serial number 91, the communication controlling device code 115 showing the communication controlling device 4 is formed. Drawing 18 shows the example of composition of the data format at the time of access to the copying machine 5 from the communication controlling device 4. This processing is the data format and identical

configuration between the communication controlling device 4 of Read processing and the copying machine 5 in the case of accessing to the copying machine 5 from the controlling device 1 shown in drawing 16 mentioned above. In this case, the copying machine 5 cannot distinguish access from the controlling device 1, and access from the communication controlling device 4, and can treat them now similarly.

[0040]Operation of a remote report is explained based on the composition of data parameters and a data format as shown in drawing 14 mentioned above - drawing 18. Now, in the data format shown in drawing 15, the report reason code 97 is added and sent to the data from the copying machine 5. The report reason code 97 is identified and it classifies into the following contents according to the communication controlling device 4.

[0041]

1. The data based on the data 4. total counter value by the data 3. pre caution depended unusually [the data 2. self-test by remote report key (**)], and the data classified by doing in this way, It memorizes in the communication controlling device 4, the information destination telephone number 93 in the parameter of drawing 14 corresponding to these data is chosen, and it transmits to the selected number. In this case, it comes to be able to perform management at each place by being able to perform central control and making it individual by making the same the information destination telephone number 93 of a classification place. In the composition of drawing 1, although there is only the one controlling device 1, in real business, a number of copied sheets etc. can be managed using the controlling device installed in other places, or a service sensor can perform repair of machinery.

[0042]Next, explanation of remote report control of the copying machine 5 of operation is given based on the flow chart of drawing 19 - drawing 22. First, drawing 19 shows the situation of report control of the copying machine 5. Now, when the communication permission switch 30 (refer to drawing 4) is ON. [whether remote report key (**) is pushed and] that each which abnormality detecting by a self-checking function is carried out, or is in the required state of pre caution -- when it judged and a remote report is needed, the remote report by processing of the remote report by a remote report key, processing of the remote report depended unusually [a self-test], and pre caution is processed, respectively. Drawing 20 - drawing 22 show the contents of these each remote report processing.

[0043]Drawing 20 shows the situation of control of the remote report by remote report key (**) of the copying machine 5. The remote information message based on remote report key (**) is transmitted to the communication controlling device 4. When a report is not able to carry out normally, the no response of the communication controlling device 4, etc. perform a display to that effect on the final controlling element 31, and a user is told about them. When data is normally transmitted to the communication controlling device 4, the timer for a timeout judging is reset and it waits for the report result report from the communication controlling device 4. In

this example, timeout time is carried out for 3 minutes, and by considering the case where a report result is not received within 3 minutes as timeout, the purport of report failure is displayed on the final controlling element 31, and is told. When it is failure about the purport that the report was completed when a report result report was received in timeout time, and the contents of a report were report success, each display is performed for that.

[0044]Drawing 21 shows the situation of control of the remote report depended unusually [the self-test of the copying machine 5]. It is the same as that of the remote report by remote report key (**) except that the data transmitted to the communication controlling device 4 is data twisted unusually [self diagnosis], and timeout time being 20 minutes. Drawing 22 shows the situation of control of the remote report by the advance report of the copying machine 5. It waits for transmission of the remote information message based on pre caution to the communication controlling device 4.

[0045]Next, explanation of the copying machine 5 at the time of being accessed from the communication controlling device 4 of operation is given based on drawing 23 - drawing 26. Drawing 23 shows the overall flow of the operation. When the communication permission switch 30 is one and the communication interface unit 28 has received data now, the processing which received this and was required by the head field is judged, and Execute Read processing, Write processing, or processing is processed. An error code is replied when it is not which code, either. Drawing 24 shows the situation of Read processing. The data demanded when the item code which the copying machine 5 received was a right thing is transmitted, and an error code is returned if not right. Drawing 25 shows the situation of Write processing. If the received item code is not right, an error code is replied, the value which will be written in if an item code is right confirms whether to be in a useful range, and if it is in a useful range, the received data value will be written in as it is. When it is outside a useful range, it decides whether the item may round off and write data in the boundary value of a useful range for every item code, and if data may be rounded off and written in, the boundary value will be written in. Even if it is in a useful range like setting out of fixing temperature, for example, the thing which has large influence of rewriting, The telephone number of the service center which does not have a meaning in a numerical size forbids the slight roundness to a boundary value, and in order that an item which does not have influence in image quality like self-resetting time may give facilities, the slight roundness to a boundary value is permitted. When it seems that he would like to make self-resetting time into a long time as much as possible, if the value to write in is made into a digit numberful of the maximum, the maximum will be automatically chosen by the copying machine 5 side. Drawing 26 shows the situation of Execute processing. An error code is returned if the received item code is not right. An item code judges whether a right case needs an activity supplement for the item, performs operation specified when not required, and returns operation result information. When an

activity supplement is a required item, operation according to the information with which it was supplemented is performed, but if an activity supplement is data besides a useful range, an error code will be transmitted and processing will be ended.

[0046]Next, the communication procedure between the communication controlling device 4 and the copying machine 5 is explained based on drawing 27 - drawing 32. Drawing 27 shows the situation of the communication sequence of an idle state in case the five copying machines 5 are connected to the communication controlling device 4. The communication controlling device 4 performs the polling cycle which transmits polling sequence one by one using the polling address of each copying machine 5. As for the copying machine 5 polled by the polling address, a transmitted text transmits a negative acknowledge to the communication controlling device 4. The communication controlling device 4 has repeated the polling cycle in the state where there is no other communications processing. Drawing 28 shows an example in case there is a transmitted text of a remote report to the copying machine 5 of address **. The address of a self-opportunity sends out a transmitted text on RS-485 lines after polling SARETA. Drawing 29 shows the example in the case of transmitting the text of a report result report to the copying machine 5 of address ** from the communication controlling device 4. A current line transmits selecting sequence after ending the polling to require using the target copying machine 5 selective address, and transmits a text to the copying machine 5. After the text transmission returns to the original polling cycle.

[0047]Drawing 30 shows the communication sequence between the communication controlling device 4 and the copying machine 5 at the time of accessing the copying machine 5 of address ** from the controlling device 1 or the communication controlling device 4. The communication controlling device 4 carries out selective [of the target copying machine 5], and transmits one text of a Read demand, a Write demand, and an Execute demand. Immediately after this, it polls to the same copying machine 5, and the response to a demand is received. Actually, this sequence is inserted into the polling cycle shown by drawing 27.

[0048]Drawing 31 is regular data processing, i.e., an example of the data transfer sequence of the counter value of a total number of copied sheets performed periodically. Now, if the communication controlling device 4 reaches at the gathering time of the counter value of a total number of copied sheets, it will insert the selecting cycle which performs selecting one by one to the copying machine 5 of address ** - ** in the intervals of a polling cycle. When there is a response in a selecting cycle, it polls to the same copying machine 5, data is received, and it is made not to perform selecting immediately after that to the copying machine 5 in the following selecting cycle. Here, there is a response also from the copying machine 5 of address **, **, and ** in the first selecting cycle, and selecting is performed only to the copying machine 5 of address ** which was not able to receive data last time in the following selecting cycle, and **. And it has returned to the state of performing only the usual polling cycle which reception of

the data of all the copying machines 5 is completed in the following selecting cycle, and is shown by drawing 27.

[0049]Drawing 32 shows another example of regular data processing. If it reaches at the gathering time of the counter value of a total number of copied sheets, it will come to perform selecting instead of polling to the timing which polls to each copying machine 5. To the copying machine 5 which had the response to selecting, it polls immediately after, and data is received. A polling cycle is not inserted in the next although the 1st cycle to the copying machine 5 of address [immediately after the gathering time of the counter value of a total number of copied sheets coming] ** - ** is the same as that of drawing 31. In the 2nd cycle, it polls to the copying machine 5 which reception of data already ended, and selecting for a counter value demand is again performed to the copying machine 5 whose reception of data was not completed. When the data of all the copying machines 5 is able to be received, it returns to the usual state of only polling. Here, like drawing 31, there is a response from the copying machine 5 of address **, **, and ** first, reception of the data of the copying machine 5 of address ** can be completed among the copying machines 5 which were not able to receive data last time in the following cycle, and the data of all the copying machines 5 can be received in the following cycle.

[0050]The still more nearly following processings are performed to regular data processing as shown in two examples mentioned above. If the time shown with the parameter set in the communication controlling device 4 is reached, call origination will be carried out to the information destination telephone number shown with the parameter set in the communication controlling device 4, and the counter value of a total number of copied sheets will be transmitted to the controlling device 1. However, if it is set as the time set up inside on that the host machine 8 or communication controlling device 4 side was interruption to service by chance and the day on which the set-up time has only a leap year like [on February 29], The year which can perform processing of a total counter, and the year which is not made are made, and employment top inconvenience is produced. So, it supervises following on it, and as shown [system / this] in drawing 33, when processing does not finish with the time shown with the parameter, in it, this operation is performed until processing is completed. When said February 29 cannot be found, it is made to process on March 1. Although the data of two or more copying machines 5 is controlled by this system, the present copying machine 5 is having advanced features by colorization, digitization, etc., there are a total counter and a device connected to the copying machine 5 from that whose number was one, and it may be connected by a maximum of three pieces in this machine. [two or more] Since excessive transmitting cost will start if each counter is divided into the individual copying machine 5 and sent to the host machine 8 at this time when sending data to the host machine 8, when there is data to transmit, it transmits collectively.

[0051]Other functions with which the communication controlling device 4 used by this example is finally provided are described. When data communications are performed using the public line 2, telex rate gold is needed with a hour of use, distance, etc. In the personal computer communications used well now, since the method which connects a circuit is taken whenever it communicates, there is a fault of taking the basic charge also in short communication each time. Then, it was made to have a function which stores the data of each copying machine 5 temporarily, a function which carries out a spontaneous call to a partner, etc. in this device. In this case, what can be sent at once by inside information in the communication controlling device 4 can send it now collectively by having provided the function accumulated temporarily. If the new data sent to the same address comes while the specific partner point is recurrence call standing by by having prepared the partner the function of the call origination processing which carries out a spontaneous call, as shown in drawing 34, a possibility that the number-of-times-of-re-calling counter to the address is initialized, and it can connect with a partner can be improved. In this case, count UP of the number-of-times-of-re-calling counter may be carried out for every BUSY, or it sets an initial value at the time of the first call origination.
Then, it may detect that carry out count DOWN for every BUSY, and a number-of-times-of-re-calling counter is set to 0, and error handling may be performed.

[0052]This system is equipped also with a function which is described below. He is trying to use the circuit used by this system using the idle time of current possession in the circuit of current possession with many cases of the telephone 6 and the facsimile 7. In this case, the DTMF signal as a line selection signal is sent out to these data communications or that distinction which is not so. Drawing 35 shows the timing of the line connection. Drawing 36 shows operation of the transmitting side of a line connection, and drawing 37 shows operation of the receiver of a line connection. In this case, by transmitting the dial signal 115, by a receiver, the transmitting side receives the ring tone 116 and connects a circuit. The transmitting side sends out ID (password), when the polarity of a circuit is reversed, and thereby, when ID is detected, a receiver shifts to this system, starts the modem 11, receives data, and when not detecting ID, it is processed as usual communication. Since it becomes silent to a partner, it may be made to tell about during ID detection the way things stand against being under processing by returning the answer signal 117 after fixed time (t_1) at the transmitting side.

[0053]As mentioned above, the specific data memory measure which memorizes the specific data periodically transmitted from the copying machine 5 into the communication controlling device 4 is established, The data storage means for initial setting which memorizes the data for initial setting currently sent from the communication controlling device 4 in the controlling device 1, When initial setting receives the initial-setting completion means which shows ********

for the first time, and the data for initial setting, When the password (ID) in the data for initial setting is memorized when the initial-setting completion means is not set up, and the initial-setting completion means is set up, the password in the data for initial setting is compared with the password memorized by the controlling device 1. Since the data effective discriminating means for initial setting which validates the data for initial setting was established only when agreeing, confidentiality can be improved by setting out being able to do a password individually as an internal parameter of data, and moreover giving a password to a communication body system. Confidentiality can be improved much more by having established the password comparing means which is not concerned with transmission and reception but compares a password in the controlling device 1.

[0054]Form a password change means by which the password memorized by the controlling device 1 can be changed after cutting of the power supply of both the inside and the exterior of the controlling device 1, or, By having formed the 2nd password change means that makes change of the password memorized by the controlling device 1 change using the 2nd password, a password is on communication, and it becomes impossible to enter from other systems and to change it easily, and, thereby, it can improve confidentiality further much more.

[0055]

[Effect of the Invention]In the remote control with which the invention according to claim 1 was provided with the interface device connected to image forming devices, such as a copying machine, via the communication line, and the controlling device connected to this interface device via the public line, The specific data memory measure which memorizes the specific data periodically transmitted from said image forming device is established in said interface device, The data storage means for initial setting which memorizes the data for initial setting currently sent from said interface device, When initial setting receives the initial-setting completion means which shows ******** for the first time, and said data for initial setting, When the password in said data for initial setting is memorized when said initial-setting completion means is not set up, and said initial-setting completion means is set up, the password in said data for initial setting is compared with the password memorized by said controlling device. Since the data effective discriminating means for initial setting which validates said data for initial setting was established in said controlling device only when agreeing, A password can be individually set up as an internal parameter of data, and, moreover, confidentiality can be improved by giving a password to a communication body system.

[0056]In the invention according to claim 1, since the invention according to claim 2 established the password comparing means which is not concerned with transmission and reception but compares a password in the controlling device, it can improve confidentiality much more by comparing such a password.

[0057]Since the invention according to claim 3 formed a password change means by which the password memorized by the controlling device could be changed in the invention according to claim 1 after cutting of the power supply of both the inside and the exterior of the controlling device, A password is on communication, can enter from other systems, and cannot be changed easily, but, thereby, can improve confidentiality further much more.
[0058]In the invention according to claim 3, since the invention according to claim 4 formed the 2nd password change means that makes change of the password memorized by the controlling device change using the 2nd password, it can acquire the same effect as the invention according to claim 3.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

TECHNICAL FIELD

[Industrial Application]This invention relates to the remote control which connects an image forming device and controlling devices, such as a copying machine, via a communication line.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

PRIOR ART

[Description of the Prior Art]Conventionally, the system which enabled the controlling device installed in the on-line service etc. and connection of image forming devices, such as a copying machine, is developed using the public line. In this case, by managing intensively two or more copying machines currently installed in the remote place with the host machine installed in one place of a center, it uses for the total of the operating condition of each copying machine, or uses for the maintenance of a copying machine, etc. As concrete contents of this maintenance, the automatic call origination to the controlling device by the self-test of a copying machine and accessing a copying machine from the controlling device side, and adjusting each part are performed. It also became possible by having developed such a system to read conventionally the counter value (generally number of copied sheets) for billing of the maintenance contract of the copying machine which was being checked by the visit of a service engineer, or the customer's telephone by remote control.
[0003]The example of remote control is given to below. There are some which are indicated by JP,1-103950,U and JP,1-100561,U as "a copying machine in which telephone remote automatic meter reading is possible", and are indicated by JP,1-100562,U as "a network control unit for number-of-copied-sheets automatic meter readings." Each of these makes possible remote automatic meter reading by a telephone by being related with telephone remote control systems and communicating the present value of the number of copied sheets of a copying machine with a partner's main computer using a telephone network.
[0004]There are some which are indicated by JP,2-257155,A and JP,2-259666,A as "an information collection system of an image forming device." Each of these is related with the system for collecting the error information of an electronic copying machine, etc., the former transmits various information on a copying machine, and receives and memorizes this, and the latter transmits various information on a copying machine periodically. In what is indicated by JP,3-196053,A as an "image forming device." It is related with an external centralized control

device etc. and the image forming device constituted so that connection was possible via a communication line, and a remote control signal is received via a communication line in this case, and it is made to perform processing corresponding to this.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

EFFECT OF THE INVENTION

[Effect of the Invention]In the remote control with which the invention according to claim 1 was provided with the interface device connected to image forming devices, such as a copying machine, via the communication line, and the controlling device connected to this interface device via the public line, The specific data memory measure which memorizes the specific data periodically transmitted from said image forming device is established in said interface device, The data storage means for initial setting which memorizes the data for initial setting currently sent from said interface device, When initial setting receives the initial-setting completion means which shows ******** for the first time, and said data for initial setting, When the password in said data for initial setting is memorized when said initial-setting completion means is not set up, and said initial-setting completion means is set up, the password in said data for initial setting is compared with the password memorized by said controlling device. Since the data effective discriminating means for initial setting which validates said data for initial setting was established in said controlling device only when agreeing, A password can be individually set up as an internal parameter of data, and, moreover, confidentiality can be improved by giving a password to a communication body system.
[0056]In the invention according to claim 1, since the invention according to claim 2 established the password comparing means which is not concerned with transmission and reception but compares a password in the controlling device, it can improve confidentiality much more by comparing such a password.
[0057]Since the invention according to claim 3 formed a password change means by which the password memorized by the controlling device could be changed in the invention according to claim 1 after cutting of the power supply of both the inside and the exterior of the controlling device, A password is on communication, can enter from other systems, and cannot be changed easily, but, thereby, can improve confidentiality further much more.
[0058]In the invention according to claim 3, since the invention according to claim 4 formed the

2nd password change means that makes change of the password memorized by the controlling device change using the 2nd password, it can acquire the same effect as the invention according to claim 3.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention]As mentioned above, development of the system about various remote control is made, but. For example, when the copying machine and the controlling device are tied via the communication line and the copying machine is turned off, the data by the side of a copying machine cannot be read from a controlling device, but the timing whose read-out becomes possible by this will be restricted. That is, even if it tries to read data in the night etc. which communication cost is small and have little traffic and when a connection rate is high, the copying machine is turned off in many cases and read-out of data can be performed.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

MEANS

[Means for Solving the Problem]In a remote control provided with an interface device connected to image forming devices, such as a copying machine, via a communication line, and a controlling device connected to this interface device via a public line in the invention according to claim 1, A specific data memory measure which memorizes specific data periodically transmitted from said image forming device is established in said interface device, A data storage means for initial setting which memorizes data for initial setting currently sent from said interface device, When initial setting receives an initial-setting completion means which shows ******** for the first time, and said data for initial setting, When a password in said data for initial setting is memorized when said initial-setting completion means is not set up, and said initial-setting completion means is set up, a password in said data for initial setting is compared with a password memorized by said controlling device. Only when agreeing, a data effective discriminating means for initial setting which validates said data for initial setting was established in said controlling device.
[0007]In the invention according to claim 2, a password comparing means which is not concerned with transmission and reception but compares a password was established in a controlling device in the invention according to claim 1.
[0008]In the invention according to claim 3, a password change means by which a password memorized by controlling device could be changed after cutting of a power supply of both an inside and the exterior of the controlling device was formed in the invention according to claim 1.
[0009]In the invention according to claim 4, the 2nd password change means that makes change of a password memorized by controlling device change using the 2nd password was formed in the invention according to claim 3.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

OPERATION

[Function]In the invention according to claim 1, the password can do setting out individually as an internal parameter of data, and, moreover, it becomes possible by giving a password to a communication body system to improve confidentiality.
[0011]In the invention according to claim 2, it becomes possible by comparing a password to improve confidentiality much more.
[0012]In the invention of claim 3 and four statements, a password is on communication, and since it cannot enter from other systems and cannot change easily, it becomes possible to improve confidentiality further much more.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1]It is a block diagram showing the system configuration of the remote control which is one example of this invention.
[Drawing 2]It is a block diagram showing the internal configuration of a communication controlling device.
[Drawing 3]It is a block diagram showing the internal configuration of a controlling device.
[Drawing 4]It is a block diagram showing the composition of the control system of a copying machine.
[Drawing 5]It is a vertical section front view showing the composition of the exposure optical system of a copying machine.
[Drawing 6]It is a vertical section front view showing the composition of the developing section of a copying machine.
[Drawing 7]It is a vertical section front view showing the composition of the feeding part of a copying machine.
[Drawing 8]It is a front view showing the composition of the final controlling element of a copying machine.
[Drawing 9]It is an explanatory view of operation showing the activity of the various key parts of a copying machine.
[Drawing 10]The mimetic diagram showing remote report processing according [(a)] to a remote report key, the mimetic diagram showing remote report processing which depends (b) unusually [a self-test], and (c) are the mimetic diagrams showing remote report processing by pre caution.
[Drawing 11]The situation of access to a copying machine from a controlling device is shown, and, as for the mimetic diagram of Read processing, and (b), the mimetic diagram of Write processing and (c) of (a) are the mimetic diagrams of Execute processing.

[Drawing 12]The situation of access to a communication controlling device from a controlling device is shown, and, as for the mimetic diagram of Read processing, and (b), the mimetic diagram of Write processing and (c) of (a) are the mimetic diagrams of Execute processing.
[Drawing 13]It is a mimetic diagram showing the situation of the Read processing which is an example of access to a copying machine from a communication controlling device.
[Drawing 14]It is a mimetic diagram showing the contents of various parameters.
[Drawing 15]The mimetic diagram in which an example of the data format of a remote report is shown, and (a) shows the contents of the information message from a copying machine to a communication controlling device, The mimetic diagram in which (b) shows the contents of the information message from a communication controlling device to a controlling device, and (c) are the mimetic diagrams showing the contents of the report result report to a copying machine from a communication controlling device.
[Drawing 16]The composition of the data format at the time of access to a copying machine from a controlling device is shown, and, as for the mimetic diagram of Read processing, and (b), the mimetic diagram of write processing and (c) of (a) are the mimetic diagrams of Execute processing.
[Drawing 17]The composition of the data format at the time of access to a communication controlling device from a controlling device is shown, and, as for the mimetic diagram of Read processing, and (b), the mimetic diagram of write processing and (c) of (a) are the mimetic diagrams of Execute processing.
[Drawing 18]It is a mimetic diagram showing the situation of the Read processing which is the composition of the data format at the time of access to a copying machine from a communication controlling device.
[Drawing 19]It is a flow chart which shows the situation of report control of a copying machine.
[Drawing 20]It is a flow chart which shows the situation of the remote report control by the remote report key of a copying machine.
[Drawing 21]It is a flow chart which shows the situation of the remote report control depended unusually [the self-test of a copying machine].
[Drawing 22]It is a flow chart which shows the situation of the remote report control by the advance report of a copying machine.
[Drawing 23]It is a flow chart which shows the situation of the communications processing of the copying machine at the time of being accessed from a communication controlling device.
[Drawing 24]It is a flow chart which shows the situation of Read processing of drawing 23.
[Drawing 25]It is a flow chart which shows the situation of Write processing of drawing 23.
[Drawing 26]It is a flow chart which shows the situation of Execute processing of drawing 23.
[Drawing 27]It is a mimetic diagram showing the communication sequence of an idle state in case five copying machines are connected to the communication controlling device.

[Drawing 28]It is a mimetic diagram showing a situation in case there is a transmitted text of a remote report in a copying machine.
[Drawing 29]It is a mimetic diagram showing the situation in the case of transmitting the text of a report result report to a copying machine from a communication controlling device.
[Drawing 30]It is a mimetic diagram showing the communication sequence between the communication controlling device and copying machine at the time of accessing a copying machine from a controlling device or a communication controlling device.
[Drawing 31]It is a mimetic diagram showing an example of the data transfer sequence of the counter value of the total number of copied sheets in fixed data processing.
[Drawing 32]It is a mimetic diagram showing other examples of the data transfer sequence of the counter value of the total number of copied sheets in fixed data processing.
[Drawing 33]It is a flow chart which shows the example at the time of adding other processings to the data transfer sequence of the counter value of the total number of copied sheets in fixed data processing.
[Drawing 34]It is a flow chart which shows the situation of the call origination processing in a communication controlling device.
[Drawing 35]It is a mimetic diagram showing the timing which performs a line connection using a line selection signal.
[Drawing 36]It is a flow chart which shows operation of the transmitting side of a line connection.
[Drawing 37]It is a flow chart which shows operation of the receiver of a line connection.
[Description of Notations]
1 Controlling device
2 Public line
4 Interface device
5 Image forming device
8 Host machine

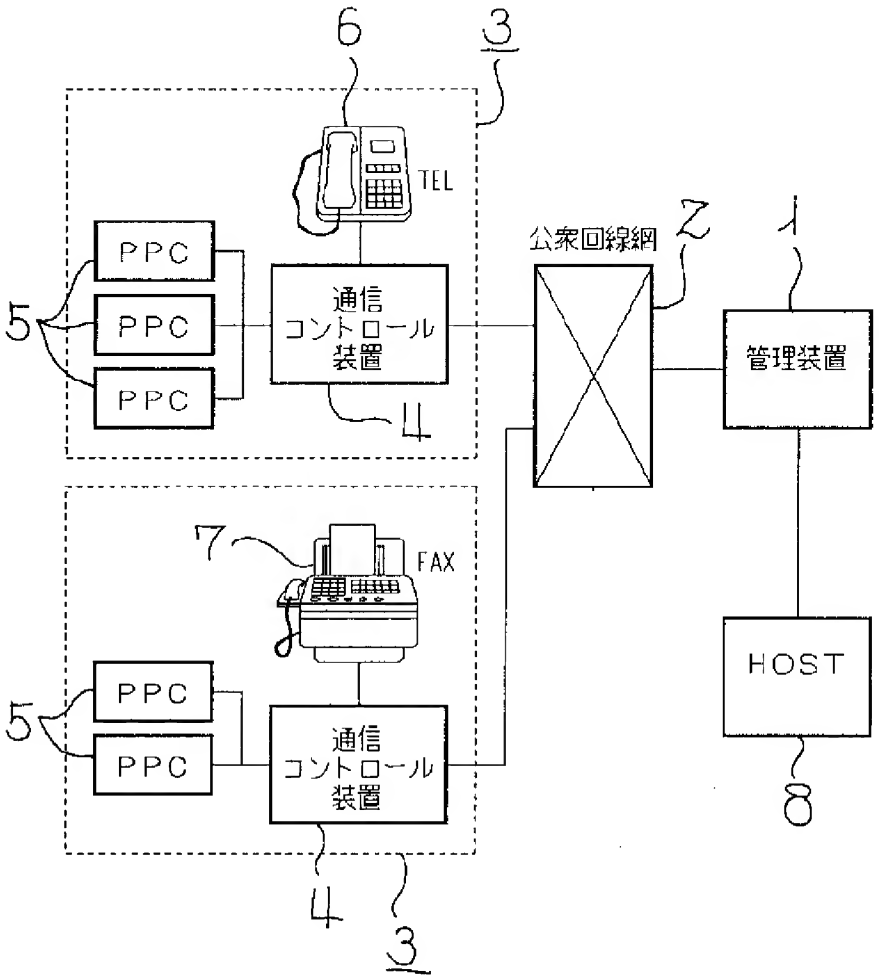
[Translation done.]

* NOTICES *

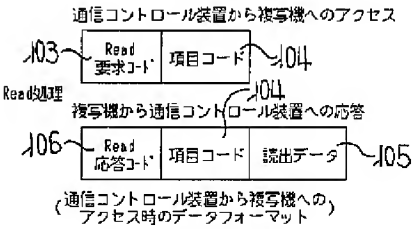
1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DRAWINGS

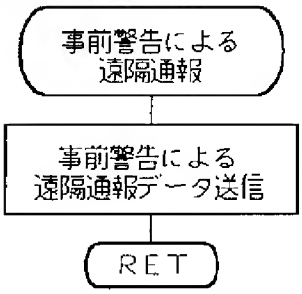
[Drawing 1]



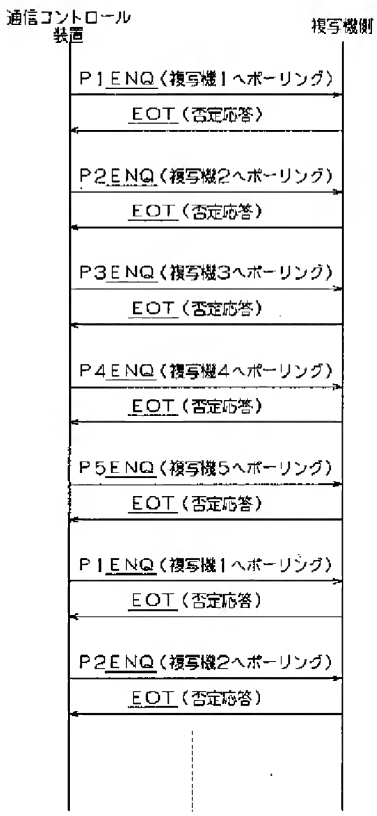
[Drawing 18]



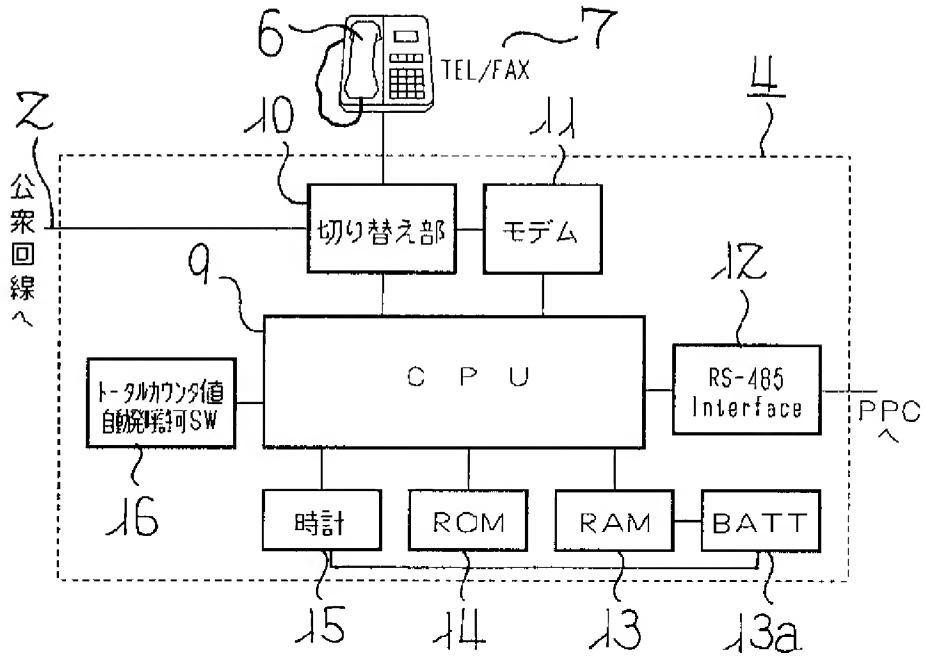
[Drawing 22]



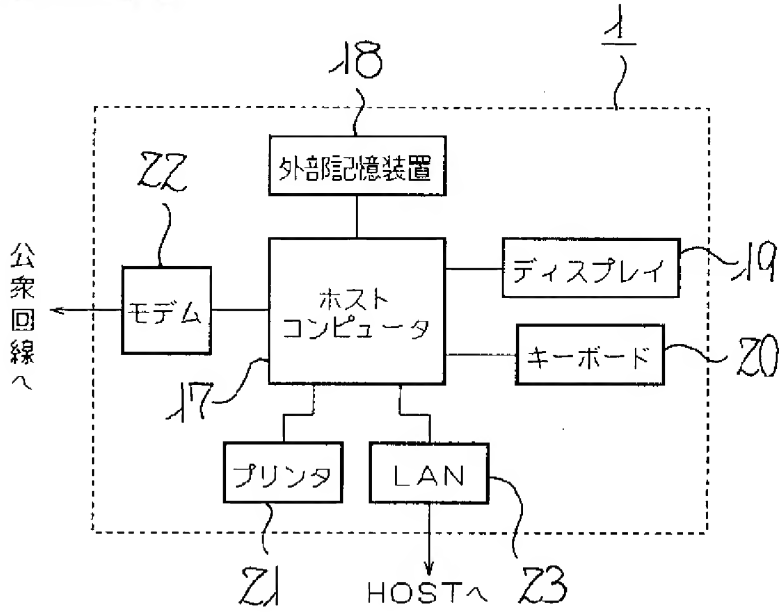
[Drawing 27]



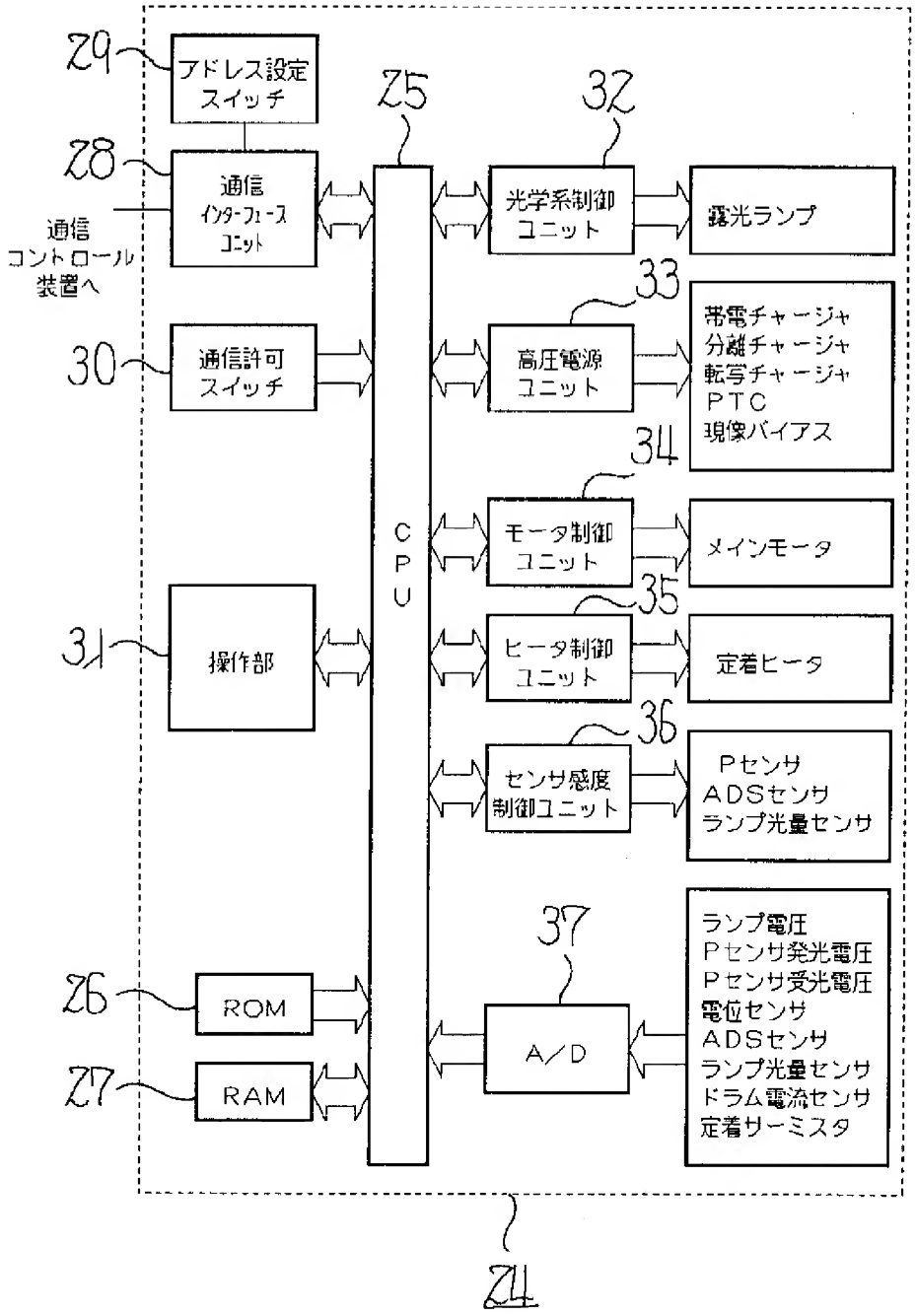
[Drawing 2]



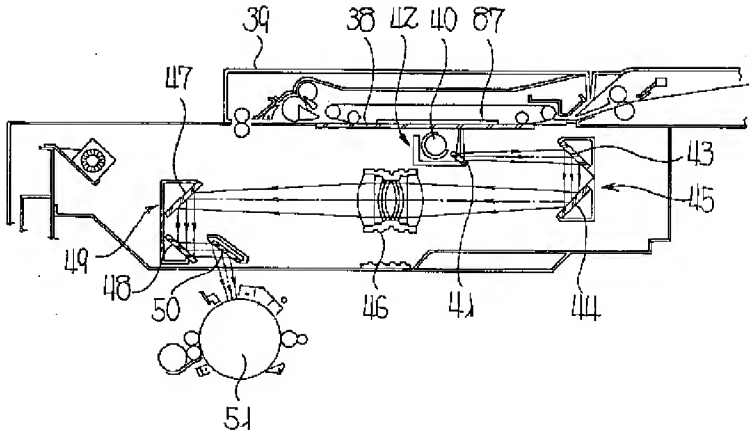
[Drawing 3]



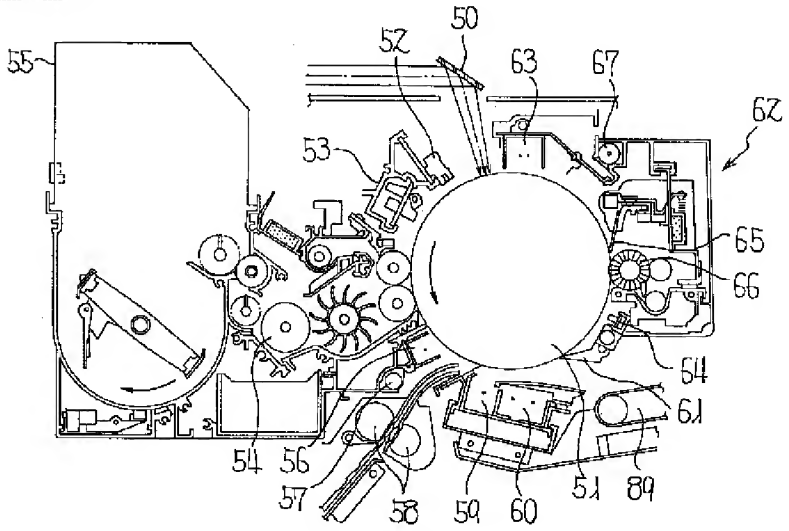
[Drawing 4]


29
アドレス設定スイッチ
28
通信インターフェースユニット
通信コントロール装置へ
30
通信許可スイッチ
31
操作部
26
ROM
27
RAM
25
CPU
32
光学系制御ユニット
露光ランプ
33
高圧電源ユニット
帯電チャージャ
分離チャージャ
転写チャージャ
PTC
現像バイアス
34
モータ制御ユニット
メインモータ
35
ヒータ制御ユニット
定着ヒータ
36
センサ感度制御ユニット
Pセンサ
ADSセンサ
ランプ光量センサ
37
A/D
ランプ電圧
Pセンサ発光電圧
Pセンサ受光電圧
電位センサ
ADSセンサ
ランプ光量センサ
ドラム電流センサ
定着サーミスタ
24

[Drawing 5]

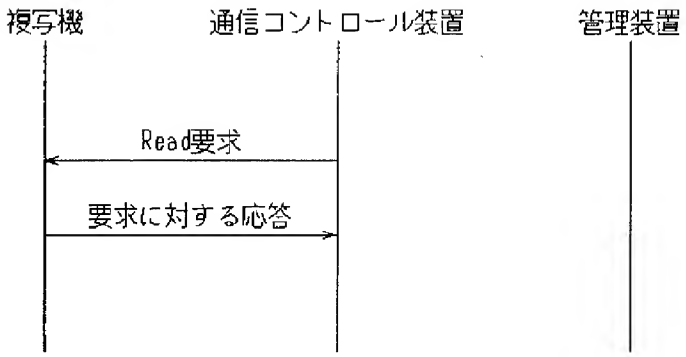


[Drawing 6]



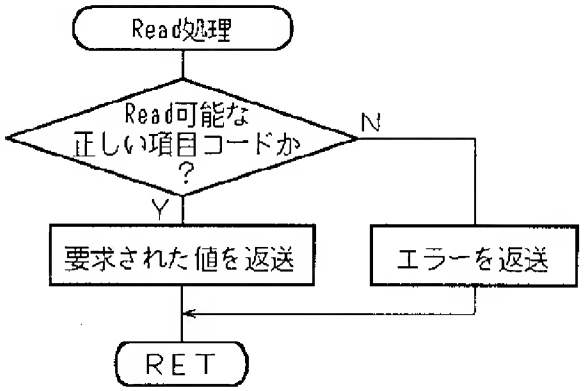
[Drawing 13]

Read処理

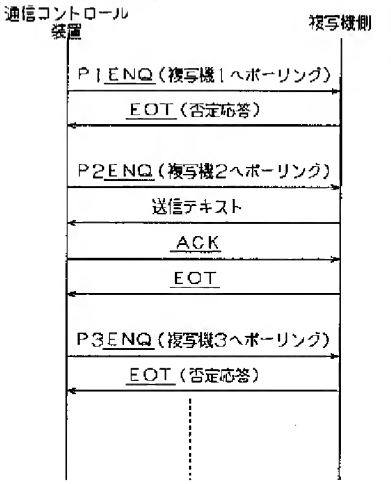


（通信コントロールユニットから複写機へのアクセス）

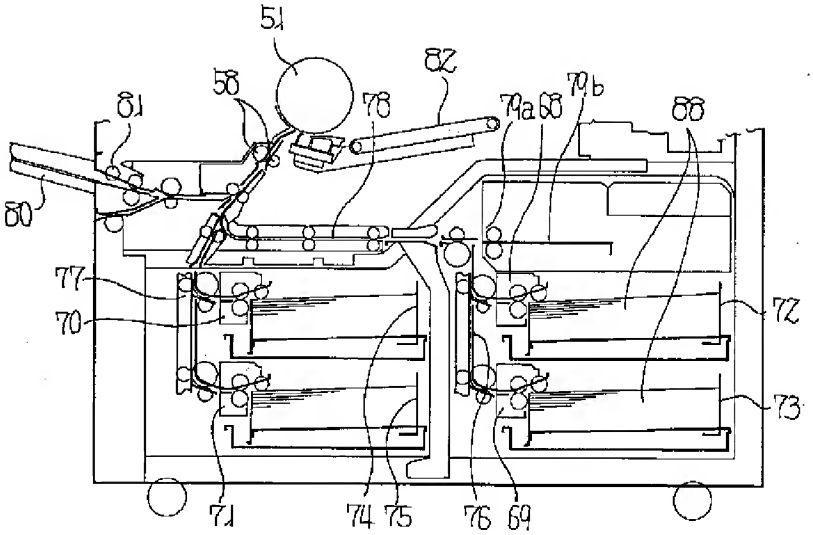
[Drawing 24]



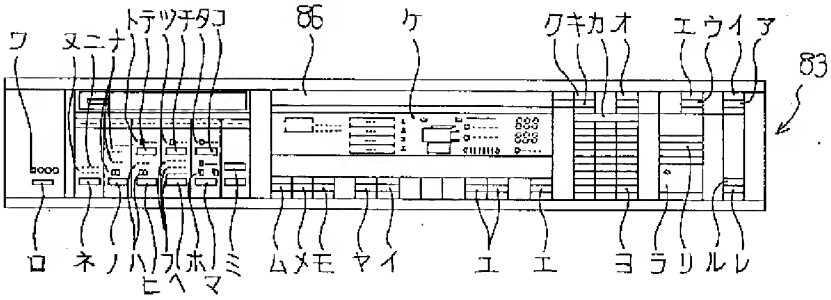
[Drawing 28]



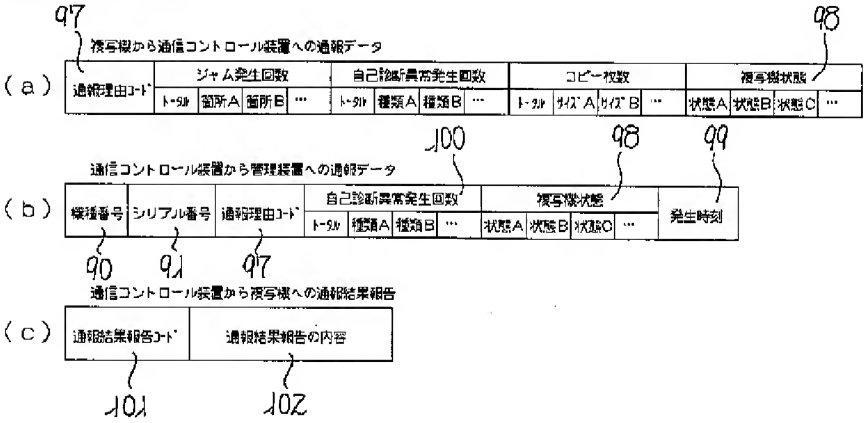
[Drawing 7]



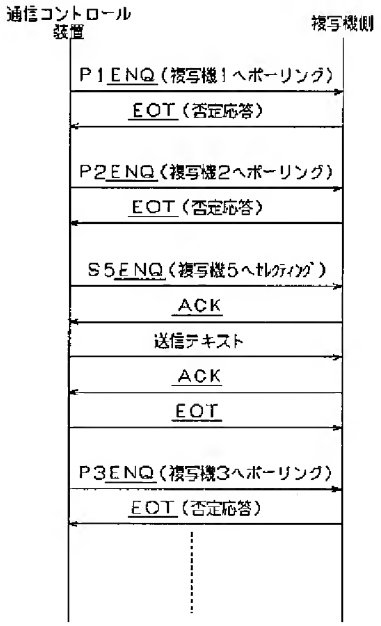
[Drawing 8]



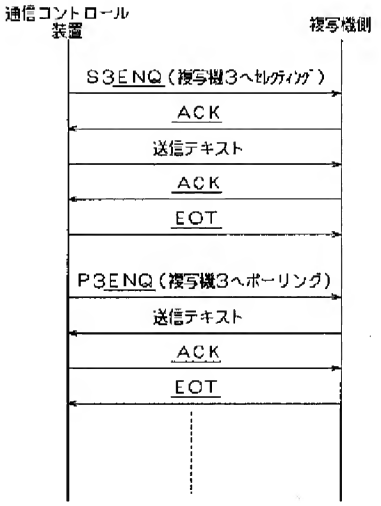
[Drawing 15]



[Drawing 29]



[Drawing 30]



[Drawing 9]

84 85

番号	名称	はたらき
ア	タイマーキー	タイマーの時刻をセットするときに押します。
イ	タイマー表示	タイマーをセットしているとき、タイマー動作しているときに点灯します。
ウ	プログラムキー	プログラムを記憶させるときと、呼び出しをするときに押します。
エ	プログラム表示	プログラムを使用しているときに点灯します。
オ	エンターキー	寸法変倍や編集機能、プログラムナンバーの設定時、押します。
カ	テンキー	コピー枚数をセットするとき、寸法変倍のとき、とじ代幅をセットするとき、プログラムをセットするときプログラムナンバーの設定時に押します。
キ	ガイダンスキー	コピー操作の方法や、各キーの操作の説明をガイダンス表示部に表示したいときに押します。
ク	ガイダンスキー表示	ガイダンスを使用しているときに点灯します。
ケ	表示パネル	各種情報を表示します。(詳しくは次ページ参照)
コ	寸法変倍キー	原稿の寸法を入力するときに点灯します。
サ	寸法変倍表示	寸法変倍選択状態のときに点灯します。
シ	センタリングキー	コピー画像を用紙の中央に移動させたいときに押します。
ッ	センタリング表示	センタリング選択状態のときに点灯します。
テ	とじ代調整キー	コピーの左右にとじ代(余白)をつくりたいときに押します。
ト	とじ代表示	選択されたとじ代を表示します。
ナ	両面表示	両面コピーの状態のときに点灯します。
ニ	ソート表示	ソーター使用時で、ソート状態のときに点灯します。(オプション)
ヌ	スタック表示	ソーター使用時で、スタック状態のときに点灯します。(オプション)

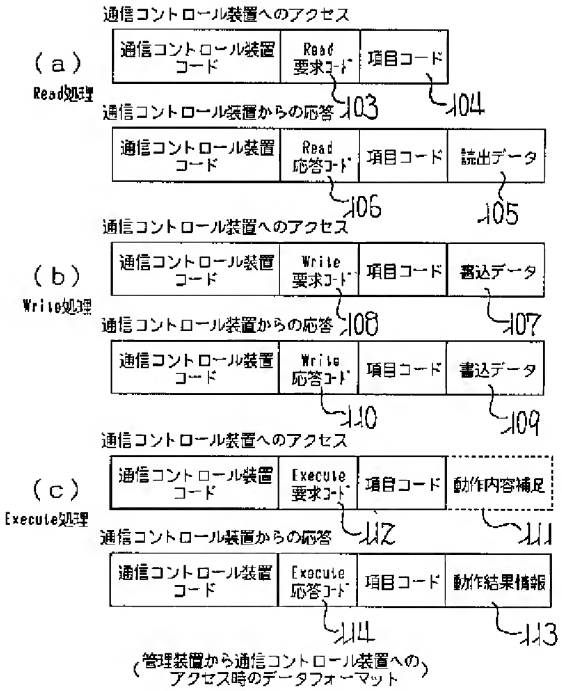
番号	名称	はたらき
ネ	ソーターキー	ソーターを使用するときに押します。(オプション)
ノ	両面キー	両面コピーをとるときに押します。
ハ	ページ連写表示	ページ連写状態のときに点灯します。
ヒ	ページ連写キー	原稿を原稿を自動的に片面ずつコピーするときと両面原稿を自動的に片面ずつコピーするときに押します。但し、両面原稿はオプションのDFが必要です。
フ	消去表示	編集コピーの状態のときに点灯します。
ヘ	消去キー	枠消去、外消去、円消去コピーをとるときに押します。
ホ	用紙指定変倍表示	用紙指定変倍コピーの状態のときに点灯します。
マ	用紙指定変倍キー	用紙指定変倍コピーをとるときに押します。
ミ	ズーム変倍キー	コピー倍率を自由に選択するときに押します。
ム	縮小キー	縮小コピーをとるときに押します。
メ	拡大キー	拡大コピーをとるときに押します。
モ	等倍キー	等倍コピーに戻すときに押します。
ヤ	用紙選択キー	コピー用紙を選択するときに押します。
イ	自動用紙選択キー	自動用紙選択にするときに押します。
ユ	濃度調整キー	コピー画像の濃淡を調整するときに押します。
エ	自動濃度キー	自動濃度調整状態にしたいときに押します。
ヨ	クリアストップキー	セット枚数を変更したいときや、連続コピーを途中で停止したいときや、プログラムナンバーの設定時に押します。
ラ	スタートキー	コピーをとるときに押します。
リ	割込キー	割り込みコピーをとるときに押します。
ル	予熱表示	予熱状態のときに点灯します。
レ	モードクリア・予熱キー	各種モードを標準モードに戻すときと、予熱状態と通常の状態を切り替えるとき、プログラムナンバーの設定時に押します。
ロ	通報通報キー	通報通報を行いたいときに押します。
ワ	通報通報表示	通報通報中に点灯します。

[Drawing 14]

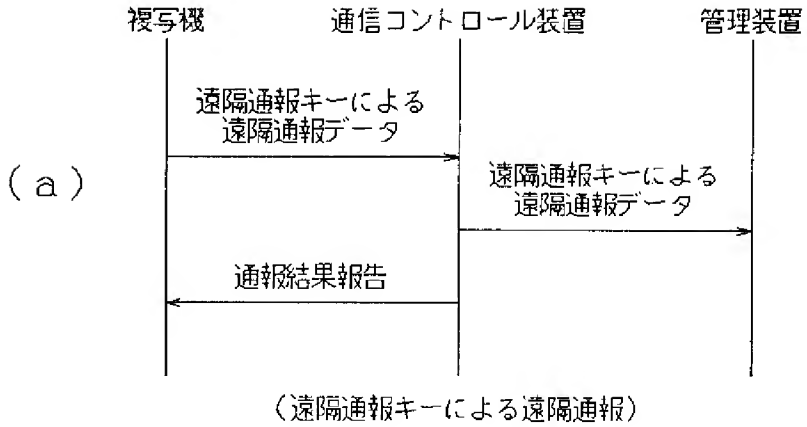
パラメータ内容			データ長
アドレス①の複写機	機種番号		6
	シリアル番号		10
	以上のチェックサム		4
アドレス②の複写機	機種番号		6
	シリアル番号		10
	以上のチェックサム		4
アドレス③の複写機	機種番号		6
	シリアル番号		10
	以上のチェックサム		4
アドレス④の複写機	機種番号		6
	シリアル番号		10
	以上のチェックサム		4
アドレス⑤の複写機	機種番号		6
	シリアル番号		10
	以上のチェックサム		4
遠隔通報キーによる遠隔通報	通報先電話番号		32
	リダイヤル回数		2
	リダイヤル間隔時間		3
	管理装置へ通報時の情報送信の可否	ジャム発生回数	1
		自己診断異常発生回数	1
		コピー枚数	1
		複写機状態	1
	以上のチェックサム		4
自己診断異常による遠隔通報	通報先電話番号		32
	リダイヤル回数		2
	リダイヤル間隔時間		3
	管理装置へ通報時の情報送信の可否	ジャム発生回数	1
		自己診断異常発生回数	1
		コピー枚数	1
		複写機状態	1
	以上のチェックサム		4
事前警告による遠隔通報	通報先電話番号		32
	リダイヤル回数		2
	リダイヤル間隔時間		3
	管理装置へ通報時の情報送信の可否	ジャム発生回数	1
		自己診断異常発生回数	1
		コピー枚数	1
		複写機状態	1
	管理装置への通報時刻(時:分)		4
	以上のチェックサム		4
トータルカウンタ値自動通信処理	トータルコピー枚数カウンタ値収集時刻		4
	通報先電話番号		32
	通報日時(日:時:分)		6
	以上のチェックサム		4
電話設定	ダイヤルモード設定(パルス or トーン)		1
	ダイヤルパルス間隔設定		1
	以上のチェックサム		4

90 91 92 93 94 95 96 96 96

[Drawing 17]

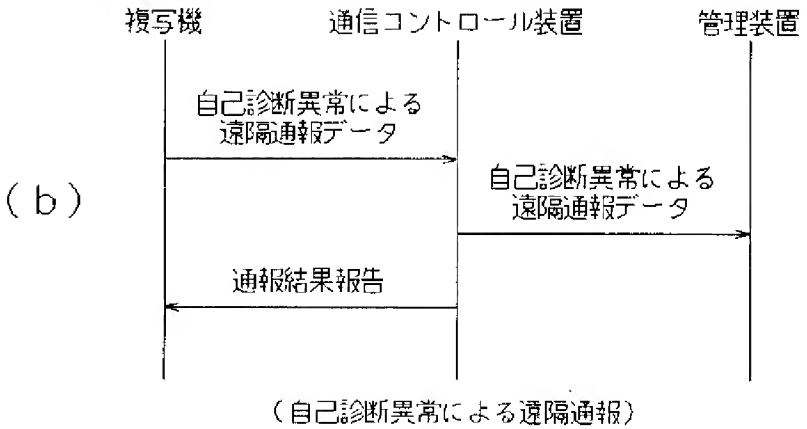

通信コントロール装置へのアクセス
(a)
Read処理
通信コントロール装置コード
Read要求コード
項目コード
103
104
通信コントロール装置からの応答
通信コントロール装置コード
Read応答コード
項目コード
読出データ
106
105
通信コントロール装置へのアクセス
(b)
Write処理
通信コントロール装置コード
Write要求コード
項目コード
書込データ
108
107
通信コントロール装置からの応答
通信コントロール装置コード
Write応答コード
項目コード
書込データ
110
109
通信コントロール装置へのアクセス
(c)
Execute処理
通信コントロール装置コード
Execute要求コード
項目コード
動作内容補足
112
111
通信コントロール装置からの応答
通信コントロール装置コード
Execute応答コード
項目コード
動作結果情報
114
113
(管理装置から通信コントロール装置へのアクセス時のデータフォーマット)

[Drawing 10]



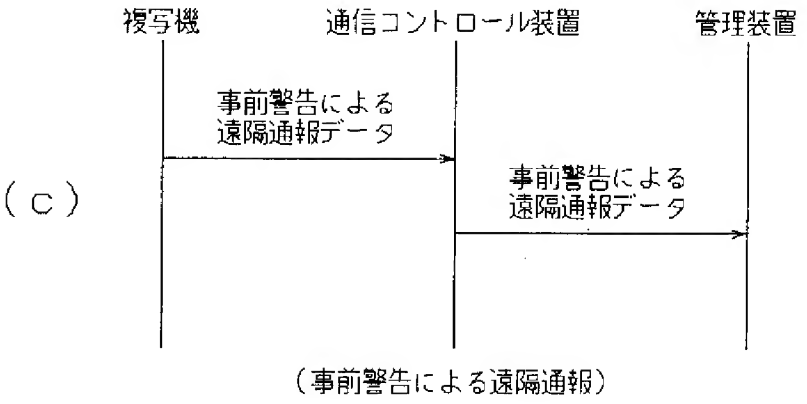
(a)

(遠隔通報キーによる遠隔通報)



(b)

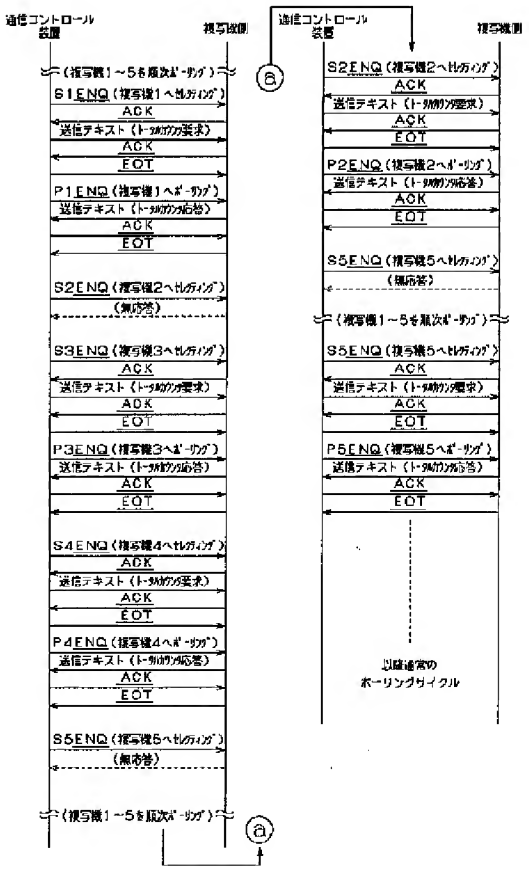
(自己診断異常による遠隔通報)



(c)

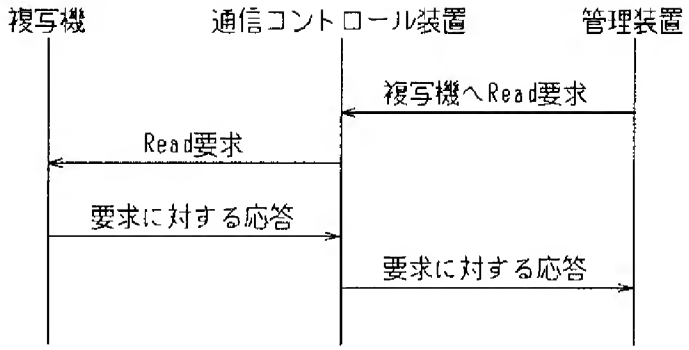
(事前警告による遠隔通報)

[Drawing 31]

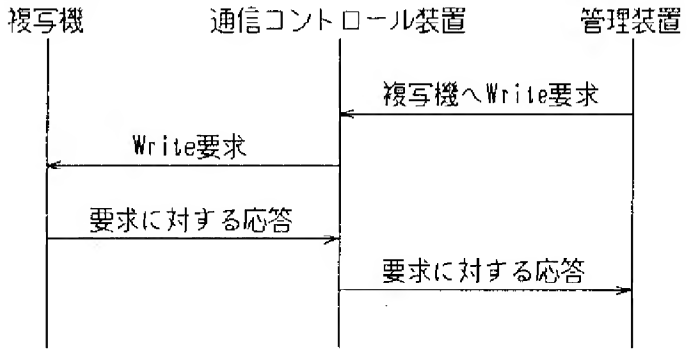

通信コントロール装置
複写機側
通信コントロール装置
複写機側
(複写機1～5を順次ポーリング)
S1ENQ(複写機1へセレクティング)
ACK
送信テキスト(トータルカウンタ要求)
ACK
EOT
P1ENQ(複写機1へポーリング)
送信テキスト(トータルカウンタ応答)
ACK
EOT
S2ENQ(複写機2へセレクティング)
(無応答)
S3ENQ(複写機3へセレクティング)
ACK
送信テキスト(トータルカウンタ要求)
ACK
EOT
P3ENQ(複写機3へポーリング)
送信テキスト(トータルカウンタ応答)
ACK
EOT
S4ENQ(複写機4へセレクティング)
ACK
送信テキスト(トータルカウンタ要求)
ACK
EOT
P4ENQ(複写機4へポーリング)
送信テキスト(トータルカウンタ応答)
ACK
EOT
S5ENQ(複写機5へセレクティング)
(無応答)
(複写機1～5を順次ポーリング)
ⓐ
S2ENQ(複写機2へセレクティング)
ACK
送信テキスト(トータルカウンタ要求)
ACK
EOT
P2ENQ(複写機2へポーリング)
送信テキスト(トータルカウンタ応答)
ACK
EOT
S5ENQ(複写機5へセレクティング)
(無応答)
(複写機1～5を順次ポーリング)
S5ENQ(複写機5へセレクティング)
ACK
送信テキスト(トータルカウンタ要求)
ACK
EOT
P5ENQ(複写機5へポーリング)
送信テキスト(トータルカウンタ応答)
ACK
EOT
以降通常のポーリングサイクル
ⓐ

[Drawing 11]

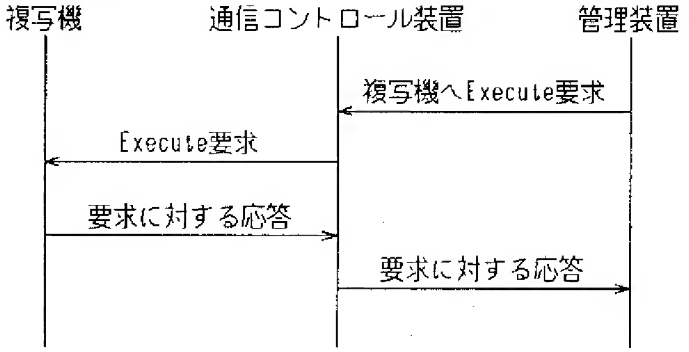
（ａ） Read処理



（ｂ） Write処理



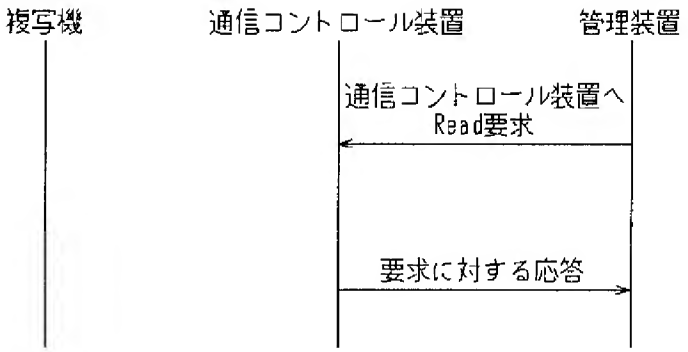
（ｃ） Execute処理



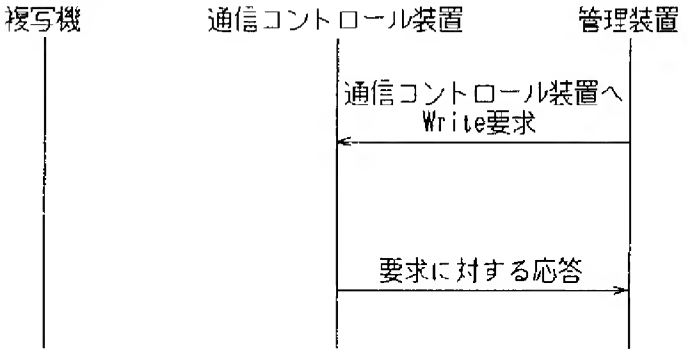
〈管理装置から複写機へのアクセス〉

[Drawing 12]

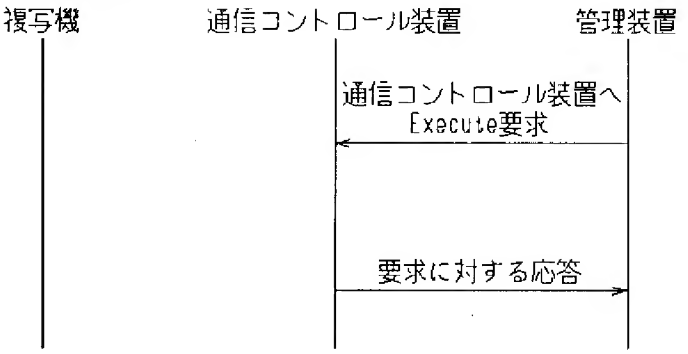
（ａ） Read処理



（ｂ） Write処理

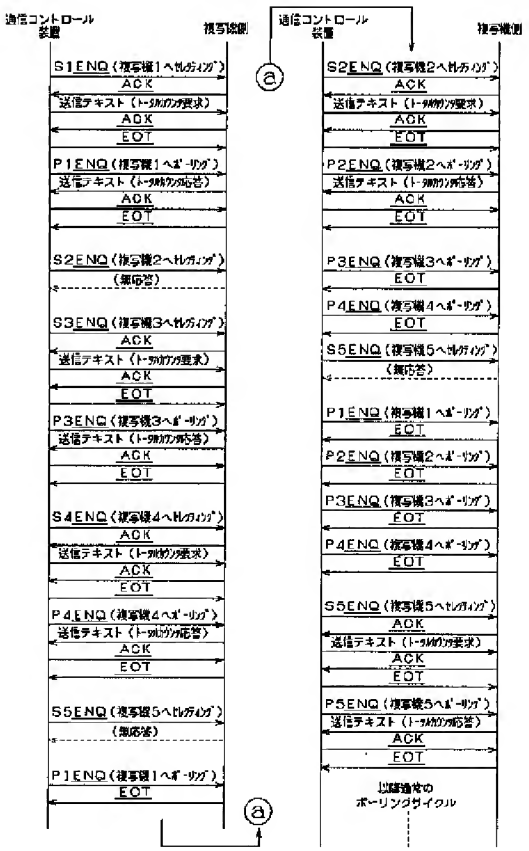


（ｃ） Execute処理

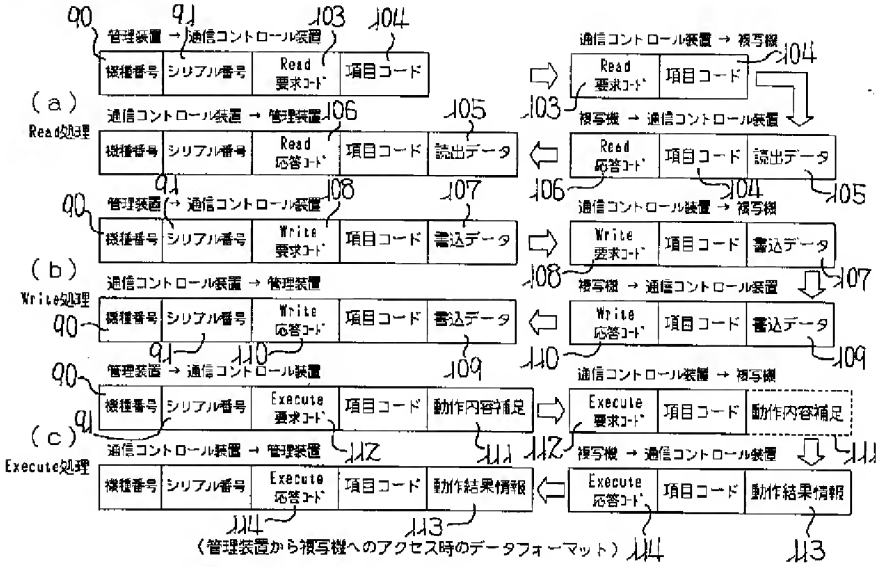


（管理装置から通信コントロール装置へのアクセス）

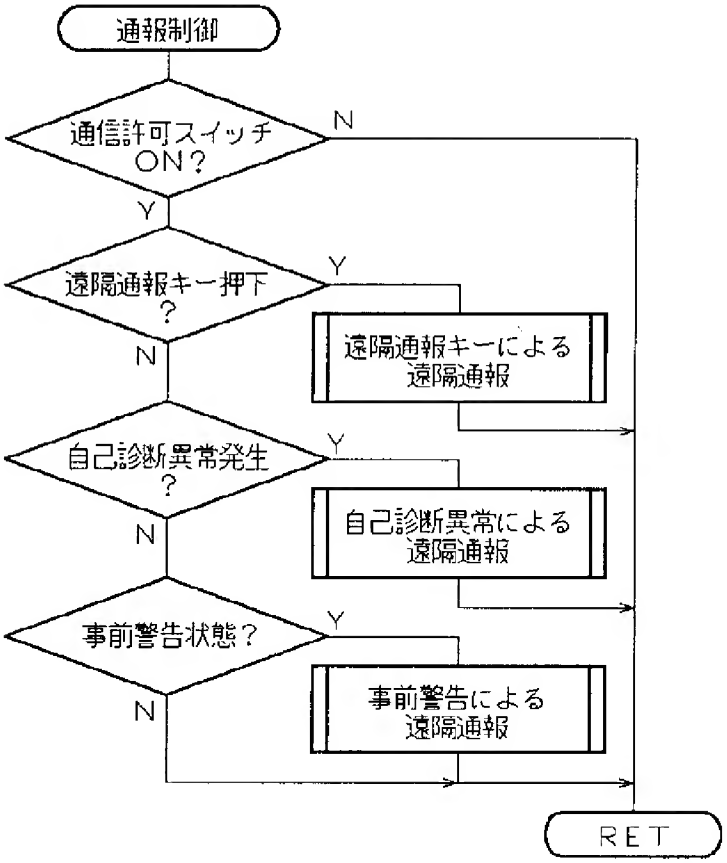
[Drawing 32]



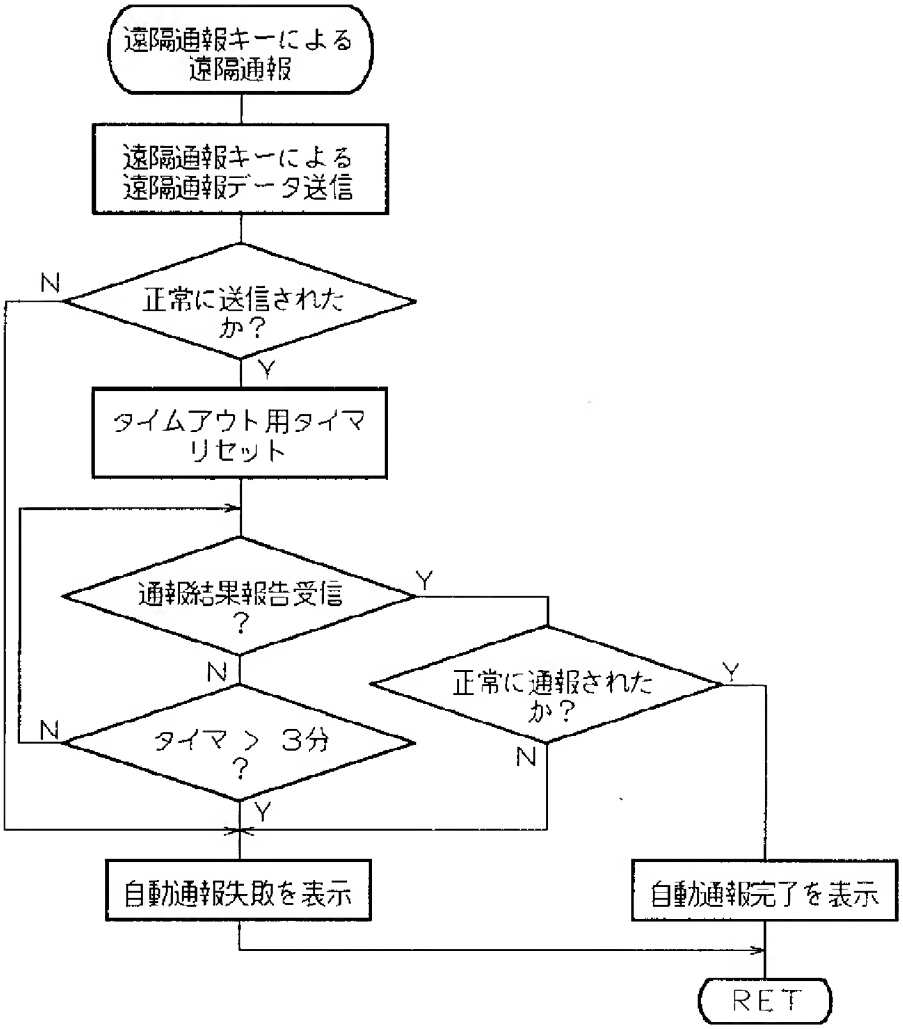
[Drawing 16]



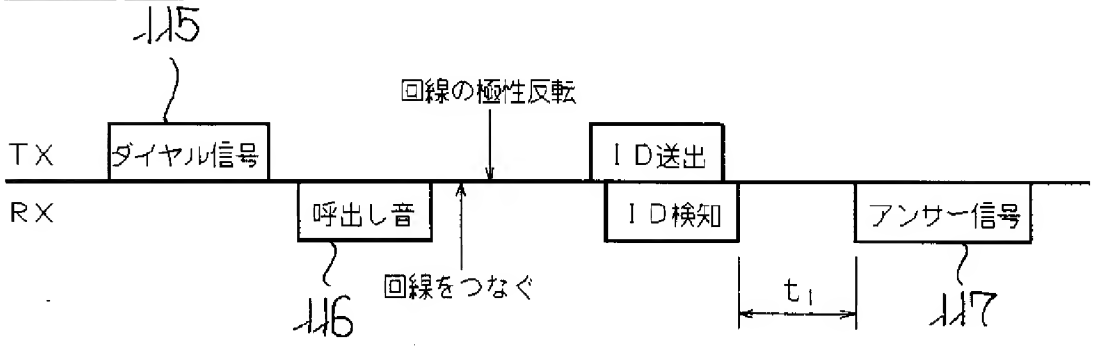
[Drawing 19]


通報制御
通信許可スイッチ ON？
N
Y
遠隔通報キー押下 ？
Y
遠隔通報キーによる 遠隔通報
N
自己診断異常発生 ？
Y
自己診断異常による 遠隔通報
N
事前警告状態？
Y
事前警告による 遠隔通報
N
RET

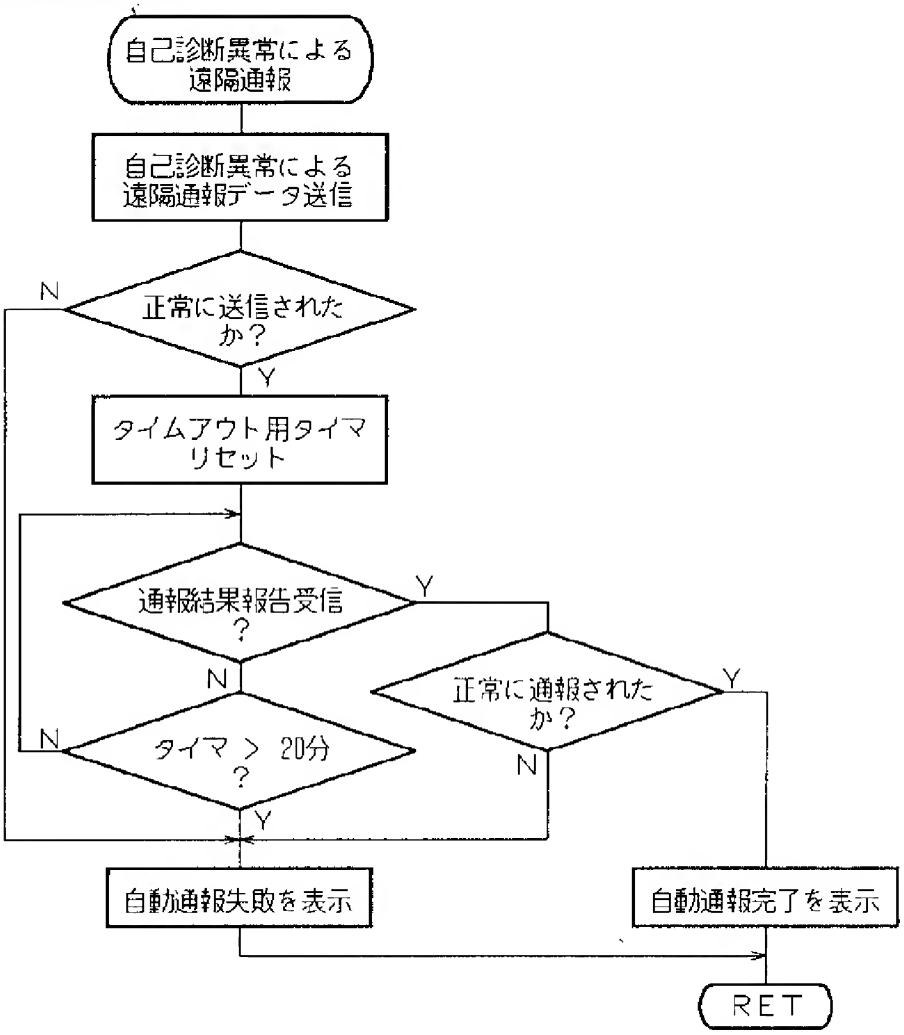
[Drawing 20]


遠隔通報キーによる遠隔通報
遠隔通報キーによる遠隔通報データ送信
正常に送信されたか？
N
Y
タイムアウト用タイマリセット
通報結果報告受信？
Y
N
正常に通報されたか？
Y
N
タイマ＞3分？
N
Y
自動通報失敗を表示
自動通報完了を表示
RET

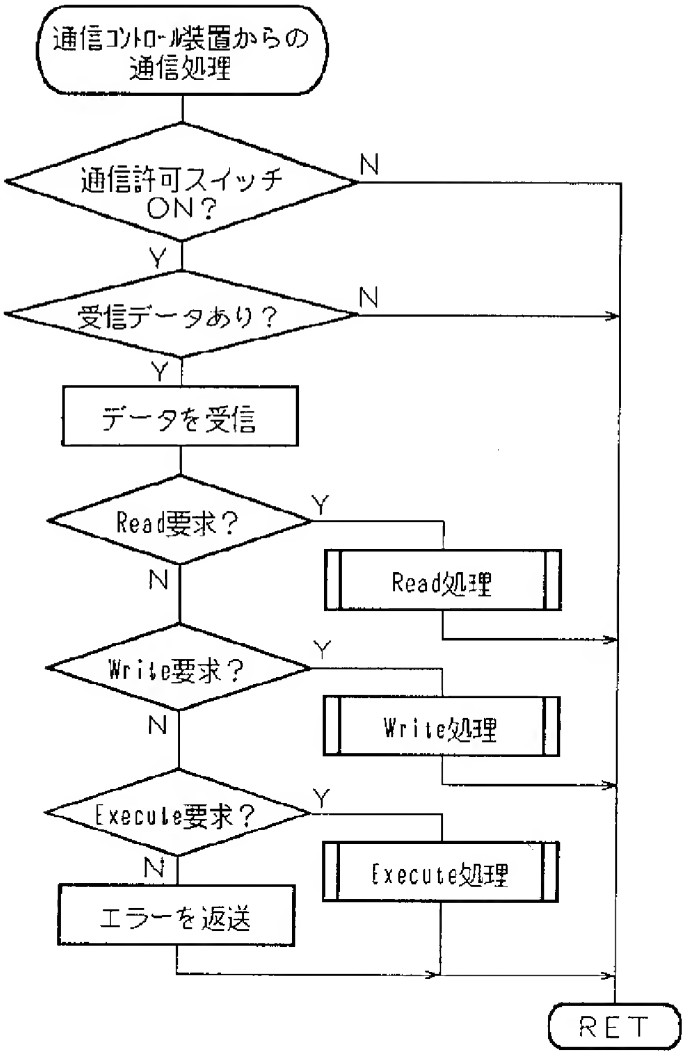
[Drawing 35]


45
回線の極性反転
TX
ダイヤル信号
ＩＤ送出
RX
呼出し音
ＩＤ検知
アンサー信号
回線をつなぐ
t1
46
47

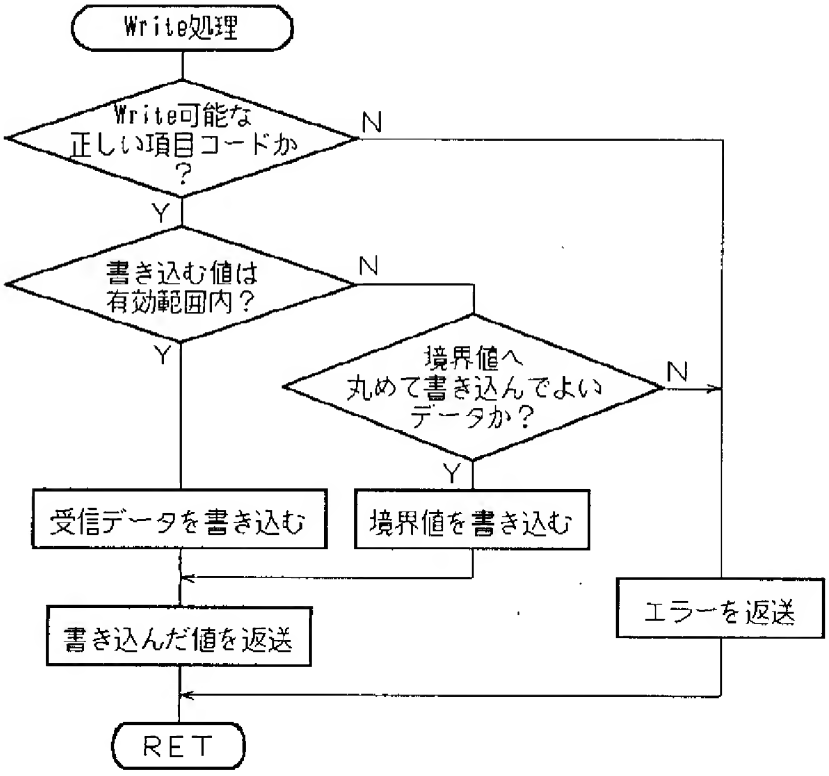
[Drawing 21]



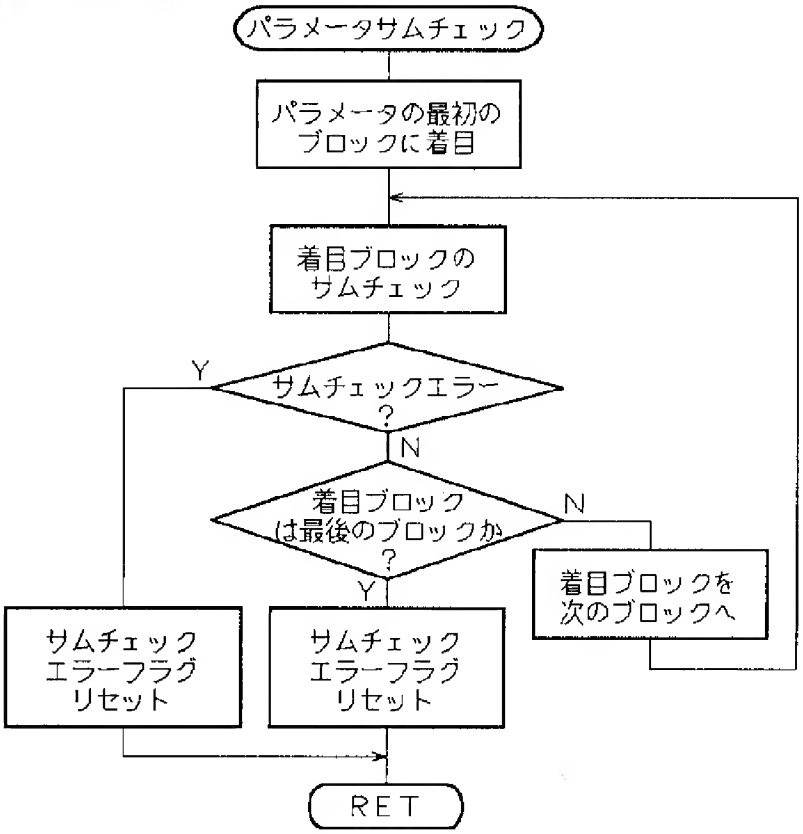
[Drawing 23]


通信ｺﾝﾄﾛｰﾙ装置からの通信処理
通信許可スイッチON？
N
Y
受信データあり？
N
Y
データを受信
Read要求？
Y
Read処理
N
Write要求？
Y
Write処理
N
Execute要求？
Y
Execute処理
N
エラーを返送
RET

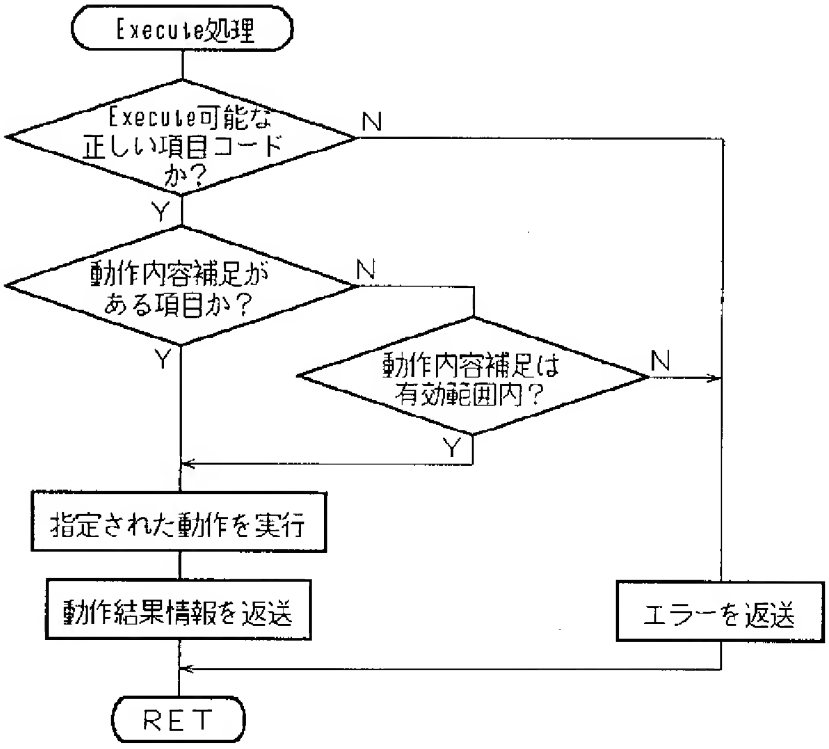
[Drawing 25]



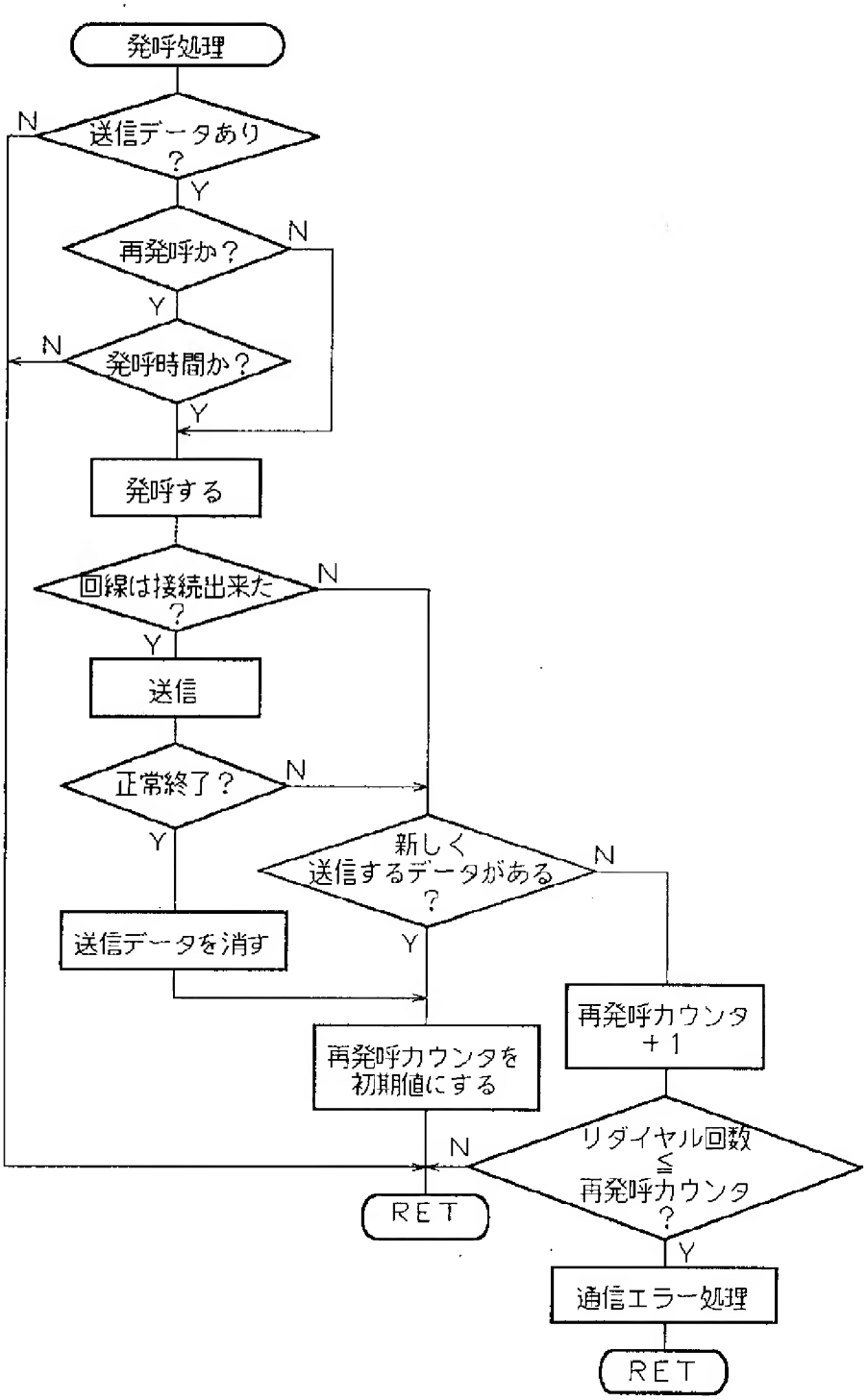
[Drawing 33]



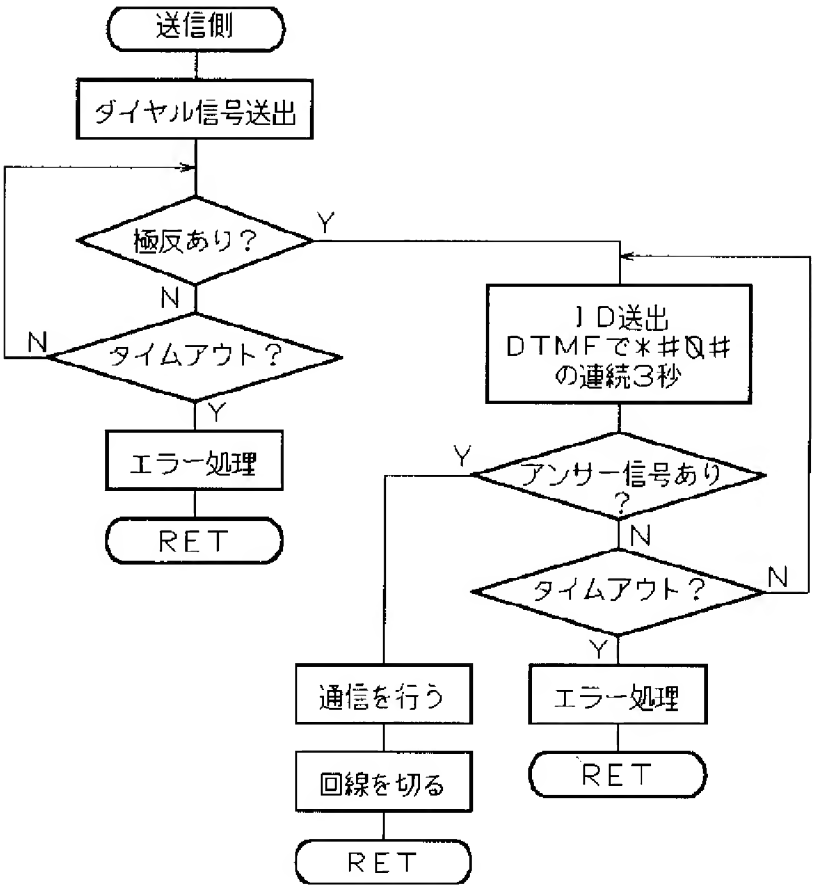
[Drawing 26]


Execute処理
Execute可能な正しい項目コードか？
N
Y
動作内容補足がある項目か？
N
Y
動作内容補足は有効範囲内？
N
Y
指定された動作を実行
動作結果情報を返送
エラーを返送
RET

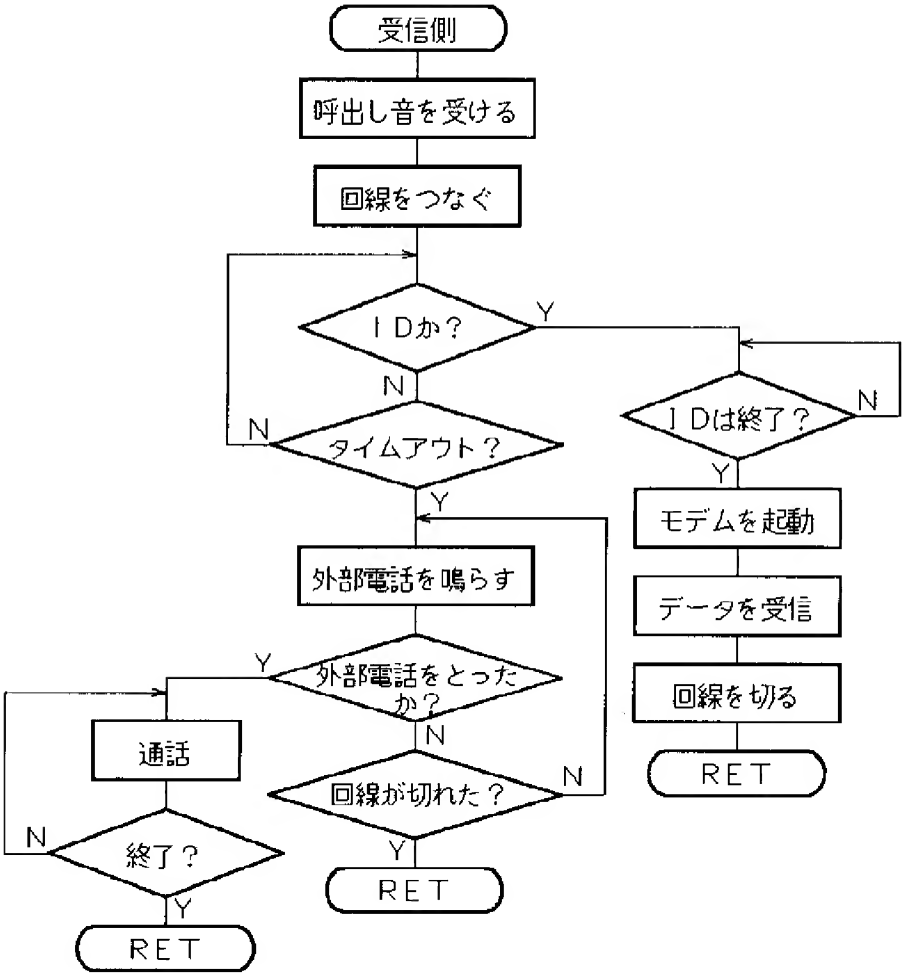
[Drawing 34]


発呼処理
送信データあり？
N
Y
再発呼か？
N
Y
発呼時間か？
N
Y
発呼する
回線は接続出来た？
N
Y
送信
正常終了？
N
Y
送信データを消す
新しく送信するデータがある？
N
Y
再発呼カウンタを初期値にする
再発呼カウンタ＋1
リダイヤル回数≦再発呼カウンタ？
N
Y
RET
通信エラー処理
RET

[Drawing 36]


送信側
ダイヤル信号送出
極反あり？
Y
N
タイムアウト？
N
Y
エラー処理
RET
ＩＤ送出
ＤＴＭＦで＊＃０＃
の連続３秒
Y
アンサー信号あり？
N
タイムアウト？
N
Y
通信を行う
回線を切る
RET
エラー処理
RET

[Drawing 37]



[Translation done.]